No. 63 Summer 1989 $5 ($6 Canadian)

WHOLE EARTH REVIEW

ACCESS TO TOOLS & IDEAS

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In the late 1960s, Veruschka transfixed the fashion world by modeling designer originals while body-painted to resemble rocks or wild animals. Since then, she has continued to experiment with different ways of camouflaging herself and disappearing into natural and industrial environments.

The cover photo, *Forest Piece at Schnaitsee*, was shot in 1972 by her partner of many years, Holger Trulzsch, in Germany. For more on Veruschka's work, see the review on page 23.

—Jeanne Carstensen and Richard Kadrey

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INTRODUCTION

Richard Kadrey

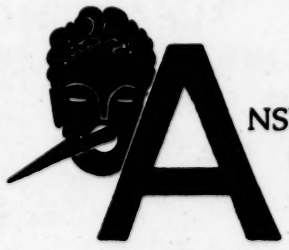
BY JEANNE CARSTENSEN AND RICHARD KADREY

WE have used the question, "is the body obsolete?" as a means to journey into a whole field of issues surrounding the human body. Historically, we have come to a time when the question must be faced, because prominent, well-funded scientists in robotics and artificial intelligence are now claiming that the body will soon be made superfluous by machines. The implications of this vision — essentially a non-biological future — are chilling. The continued deterioration of planet ecosystems seems to demand deeper understanding of biological systems if we are to survive. It is not without reason that environmental movements worldwide have embraced the symbol Gaia — the earth as great mother. If, according to these scientists, the human body will soon be obsolete, what does that say about the earth?

But the question of the body being obsolete isn't as new as it may seem. One definition of "obsolete" in the American Heritage Dictionary is "no longer in use or fashion." The inclination of both Christianity and scientific rationalism to place the body at the bottom of a hierarchy under mind and spirit has meant that the body has been decidedly out of fashion for two thousand years. The burden of Original Sin still weighs heavily on our culture. Your personal religion (or lack thereof) can't escape its influence. Christianity's uneasy truce with the flesh has taught us that the body is flawed, is sinful. And throughout the history of western science we have been given the image of the body as a machine.

Before editing this issue, the two of us actually arrived at the question "is the body obsolete?" through an ongoing conversation on sexuality issues. One night we were sitting in a North Beach bar, tossing around ideas for a magazine project. Our first thought was to do an issue on pornography, its meaning in the era of AIDS and a general retreat from sexuality. We were both concerned that the conservative agenda of the Reagan years and polarized debates over abortion and pornography were having the effect of stifling the ability to even discuss sexuality. (Lorenzo Milam has more to say about this on p. 56.)

Our topic broadened, and we found ourselves asking what the subtext of porn was, how the simulation of sex was related to sex itself, and what the significance of any simulated experience was. We were both acquainted with the computer-related studies of environmental simulations, or "virtual realities," in which three-dimensional *worlds*, where you can walk around and manipulate objects, can be generated by computers. NASA is interested in virtual realities and is throwing a lot of money at their study, as are communication companies, architecture software firms, entertainment companies, and the military . . . and where does the body belong in the age of simulation?



ANSWERING these questions has taken us to some unexpected places. The whole field of body study is exploding, in part based on the new technologies available to us, and in part as a reaction to them. We found ourselves in the middle of a sea of information coming from disciplines that, in many cases, didn't know or care about the others' existence: somatic psychology, robotics, history, artificial intelligence, and others. This issue is an attempt to decode the messages from all those different sources.

It was the future outlined in Hans Moravec's book, *Mind Children* (reviewed in *SIGNAL*, p. 207), perhaps more than any other single thing that made us question the future of the body. Dr. Moravec is a leading robotics researcher at Carnegie-Mellon University. In his article on page 12 he says that we are on the brink of a post-biological human future. The body can no longer cope with the information culture we have become. The mind is evolving away from the limitations of the human body. In fifty years, Moravec believes, we will be able to scan human brains and download them into mobile robots. Moravec is hardly the first scientist to propose this idea.

He is, however, perhaps the first with the expertise, the vision, the time, and resources to make it happen.

If Moravec is the architect of the obsolete body, Stelarc (p. 18) is the poet laureate. Trained as an artist, Stelarc originated the phrase "the obsolete body" for a series of performance events in which he was hung for up to 20 minutes at a time by steel hooks pushed through his flesh. This self-mortification was Stelarc's way of proving the limitations of the human body, and demonstrating its obsolescence. Lately, with devices like the Third Hand, he has concerned himself with ways to modify the body, to prepare it to leave the earth and move into space. Stelarc predicts that eventually a schism will develop in humanity. He foresees a time when the population splits, and modified humans desert the planet for a life of space exploration, leaving the unmodified behind.

CRITICS of this kind of thinking are more than just critical; for them, the dream of abandoning the human body is pathological. Morris Berman (author of *The Reenchantment of the World*), who writes on page 24, believes that our inability to live with bodily reality is itself a root of the destruction of the planet. While Stelarc sees the future as up into space and out of our bodies, Berman asks us to travel the difficult inner path — into our bodies, down to our souls. It is a spiritual challenge of no small dimensions. And also an intellectual one. Berman suggests no less than a total revision of history (and therefore of the future). It is how individuals and cultures deal with the ontological dilemma of bodily existence that makes history, not some intellectual exercise in clashing ideologies.

At a recent reading in San Francisco, author and poet Susan Griffin echoed Berman when she said, "It takes severe social training to look at history without the details that fill out the field." She's exploring the vast field of the history of nuclear weapons in her book-in-progress, "The First and the Last: A Woman Thinks About Nuclear War," and we excerpt from the chapter on the Holocaust on page 60. She writes about the details of Heinrich Himmler's childhood and how they intertwine with Himmler's becoming head of the Nazi system of concentration camps. How the shame Himmler and other children of his time were taught to feel about their bodies may have resurfaced in the Nazi atrocities.

The first essay we knew we wanted to publish in this issue was Audre Lorde's 1978 feminist classic on the valuing and undervaluing of feeling, "The Uses of the Erotic: The Erotic as Power" (p. 66). The suppression of the erotic in this society is a powerful tool of control, because the erotic is the deepest wellspring of feeling and well-being in each of us. Not just in the bedroom, but in every aspect of our lives. Lorde writes eloquently of the need to value the erotic, "our most profoundly creative source." She says, "In touch with the erotic, I become less willing to accept powerlessness. . . ."

The human body, which seems so universal, is actually culturally constructed and experienced in as many different ways as there are bodies. Don Hanlon Johnson, somatic therapist and chair of Esalen's Somatics Program, starts off the issue (p. 4) writing about the deconstruction of the body. With anthropology, psychology, medicine, and other disciplines all defining "the body" differently it seems we have many bodies to choose from. The new fields of somatics and body history are beginning to map out this territory.

But wait a minute. Isn't "Is the body obsolete?" a fundamentally stupid question? Since you're either sitting at a table, slumped in a couch, leaning against a wall, or curled into some other bodily position as you read this, it's absurd to even ask the question, isn't it? Several of the people we contacted to write short answers for the forum beginning on page 34 told us so in no uncertain terms. But we persisted and collected a diverse batch of responses, some of which debate the question head on, while others reflect personally and tangentially, and all of which illuminate the infinite ways people experience their bodies. Writer Sallie Tisdale talks about her child-body, adult-body, and old-age-body; Karen Finley, a writer and performance artist, responds with a blast of anger about the physical abuse of women; artificial intelligence pioneer Marvin Minsky speculates on the structure of the human mind and immortality. And there's a lot more.

IS the "sinful" body of St. Augustine being replaced by the "unnecessary" body of modern science? This is, indeed, the legacy we inherit. But it's ironic that just as the illusion of being separate from nature is peaking in certain scientific circles, interest in the body is erupting throughout the culture. To tell you the truth, we've hardly scratched the surface of what's going on in body research all over the world. We hope that we can update you on new developments in future issues of *Whole Earth Review.*

In the end, it doesn't matter which side you come down on in this debate — the future is still up for grabs; it is something we create every day. And if we don't help to create the future, we simply consume it, and consumers take themselves right out of the equation because they are passive. Part of our attempt to grab the future is putting this magazine together. If after reading this, you're still uncertain about what you want the future to look like, just ask yourself, "Is the body obsolete?"

We would appreciate your writing to let us know what you think of this issue. ■

The Body: Which One? Whose?

BY DON HANLON JOHNSON

Andreas Vesalius. *The Sixth Plate of the Muscles.* 1543.

UNTIL THE TURN OF THE CENTURY, there was broad agreement in the West about the nature of "the body": it was defined either as the wild-animal-to-be-tamed of the Greco-Roman and Christian traditions, or the physical-object-to-be-quantified of the pre-modern scientific era. Within several areas of human inquiry, those oversimplified paradigms have been cracked into many pieces. Because "the body" has become an explicit object of study in many disciplines and takes on different meanings in each, one must now ask "Which body are you talking about – the one defined by biomedicine, psychology, literary criticism, anthropology, sociology, or phenomenology, etc.?" In light of the growing body of research which has revealed the radical uniqueness of both each person's bodily makeup and his or her experiences of the body, one must also ask: "Whose body are you speaking of?"

The deconstruction of "the body," like deconstructions of "god," "truth," "man," and "woman," gives us more room to maneuver. The deconstruction of the medical body, for example, opens up a

Don Johnson is a somatic therapist and author of two books on the body. He also heads up the Esalen Somatics Program and is chair of the graduate studies program in Somatic Psychology and Education at New College of California. These programs signify the birth of somatics as a widely accepted discipline. Up until recently, practicioners of Rolfing, Feldenkrais work, sensory awareness, progressive relaxation and many other techniques have worked outside universities and research institutes, and their many successes in treating physical and psychological symptoms haven't been thoroughly recorded.

Don says in his book, The Body, *"we are gripped by ideologies." By this he means that ideologies roost in our very flesh, in our neuromuscular responses. Underlying somatic work is a critique of authoritarianism insofar as it undermines people's experiences of their bodies. The genuine fight for freedom must include the physiological fight for freedom, Wilhelm Reich said. The deconstruction of the body that Don writes about in this article is evidence of that wrestling free from unconscious bodily restriction. Medicine, anthropology, psychology and many other disciplines have got the body on the chopping block: Which one is yours?*

–Jeanne Carstensen

Howard Sochurek

NMR (nuclear magnetic resonance) forms an image by tuning in to magnetic fields naturally generated in the body. This NMR of a cancer patient shows that the disease hasn't spread to the neck and chest: the vertebrae are well defined with normal spacing.

new sense of possibilities of healing: "terminal," for instance, is no longer a meaningful term since we know that the causes of disease are too complex to allow such a rockhard certainty of outcome. People suffering from cancers, heart disease, and even AIDS now have a sense of a multiplicity of strategies they might take to enhance and prolong their lives. In a different arena, deconstruction of the gendered body loosens the rigid bonds of patriarchy.

The deconstruction of "the body" to "which one?" can be traced back to Vesalius in 1540. In anatomical art before him, "the body" is that single thing defined by skin boundaries. One gets only modest peeks at bodily interiors: a fully dressed woman reclining on a couch modestly opens her belly to reveal hints of her intestines; a bare-chested man shows us a little of his heart. Suddenly Vesalius reveals a body of muscles and bones, of arteries and veins, of brain and nerves. I call these "bodies" because the drawings give the impression that each system of the body is complete in itself, with its own internal laws, a world in itself, oblivious to other worlds, the cardiovascular world seemingly moving alongside the neural world like "the body" supposedly danced along with the soul. Each of these bodies generated its own world of research and healing — orthopedics, cardiology, neurology, etc. — which has been developed in relative independence of other specialties.

Vesalius's subcutaneous path carved out by the scalpel working on corpses was carried forward by advances in biomedical technology. The invention of microscopes revealed the cellular body.

X-rays opened up the possibility for the first time to map the interiors of the living body which turned out, strangely enough, to be very different from the dead. With such advanced technologies as photomicroscopy, magnetic resonance imaging, PET and CAT scans, one can see directly into what a century ago would have seemed to be a mystical world of pulsing cells, clusters of fuzzily delineated organs, and fluid flows.

The most explicit acknowledgement of these deconstructions can be found within the relatively new biomedical field of psychoneuroimmunology. Scientists who have been studying such phenomena as heart disease, cancer, and AIDS have developed paradigms of the person based on networks of interaction between the biological world of T-cells, neuropeptides, hormonal activity, and muscular stress, and the social world shaped by divorce, diet, and listening to Mozart. Such research would have been unthinkable when "the body" was defined by skin, muscles, and bones. Dr. George Solomon, who first coined the term psychoneuroimmunology some 25 years ago, says that when he began his research there were four known connections between what people called "mind" (depression, joy, anxiety, etc.) and what they called "body" (T-cell count, adrenal levels, etc.). At last count, 56 connections had been experimentally verified.

Another major deconstruction of the body has occurred among a small group of anthropologists who argue that the body is the first artwork of a culture, varying as much as any of its other artifacts from the body in another culture.

I first bumped up against the cultural variability of "the body" some 15 years ago while I was in private practice as a Rolfer. By strange coincidence, during the same period of time I happened to have as clients two women who were about the same age and had remarkably similar body-structures, one of whom was Hopi, the other Japanese-American. They both complained of extreme back pain. As a student of Ida Rolf, I had been told that the nature of "the body's" evolution from primates to the present leaves human beings in an awkward state of many distortions, a major pattern being the forward curvature of the vertebrae of the neck and lower back. The manipulative techniques of Rolfing, which by then I had practiced for five years, were designed to lengthen those vertebrae, bringing them *back* towards an imaginary plumb line. After several sessions of applying this method with these women, I found myself in blank ignorance; I simply did not understand the needs which were expressed to me by their necks and lower backs, which were (to my Anglo eyes) unusually

straight. At the same time, I realized that their structures were not totally unique: I had seen similar ones in Asian art, dance, and meditation postures; and among Native Americans in the Rio Grande pueblos. I began to feel that "the body" described by Ida Rolf was a European, white-American tradition.

Some time later I began to make more sense of that experience when I encountered the work of a small group of anthropologists who had organized their research around a brief 1922 essay by Marcel Mauss, "Les techniques du corps." By "techniques of the body," Mauss meant the wide range of activities which shape the protean body of the infant into an adult, ranging from styles of caring for infants, to gender formation, styles of work, exercise, sexual postures, dance and ritual, etc. He argued that these activities, which seem so "natural," are actually highly developed expressions of a particular culture's values; if you examine any particular technique such as using a shovel, you will find that the technique, and the body it goes toward shaping, differ, sometimes radically, from culture to culture. During the past 60 years, that thesis has been substantiated by a number of anthropological researchers. Inspired by their work, I began to do my own research with therapists-in-training, investigating the cultural and sociopolitical forces which have shaped them, the sources of the stories in this article.

Because Catholic monasticism played a large role in forming my body, I have been particularly curious about different religious methods of shaping. Any tradition, even those which deny the reality of the body, contain enormous numbers of verbal and non-verbal methods for shaping bodies. I was shaped by the Roman Catholic gothic vertical lines of the kneeling, sitting, standing, and prostrating postures, supplemented by extreme sexual denial and Jesuit rules of body carriage. Paul, a rabbi, was shaped by different methods of which he writes:

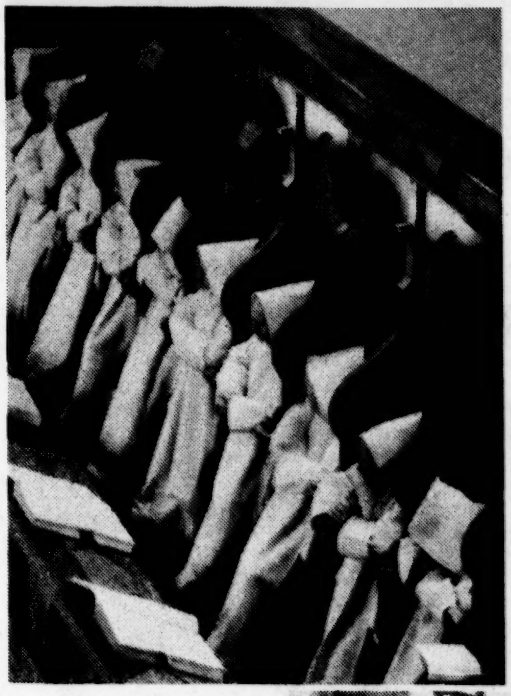
> "In the Yeshiva school, being fat was considered a sign of overindulgence in 'this world.' I became thin. There was a concept of modesty, 'tznius,' which required that men, and especially women, show as little skin as possible. Men were supposed to crack the benches — to study in a sitting position. The best men were those who were never without a book in their hand, even while traveling. Women were not expected to do this.
>
> "When walking in the streets, when there was a possibility of looking at women's bodies with enjoyment (an avoidable evil) the ideal position was to walk slightly bowed over, so that you could just see three to five feet in front of yourself, not more.
>
> "Overly careful grooming was considered effeminate. Male jewelry or perfume was not acceptable. Beards were required and hair length was short. Haircuts were defined by the number of degrees of the cutting edges of the clippers. A zero indicated extremely short, almost bald. I used to go for a three, and once went for a one. Sidelocks were kept long.
>
> "When one followed all these customs, there was a feeling of living in the Bible itself."

A culture's healing practices have profound effects on how a child comes to experience and conceptualize "the body." An American who has been raised in a climate of surgery, drugs, and orthopedic devices will think about his or her body differently than will a Southeast Asian who has been raised to use meditation, movement postures, herbs, sensitive manipulation, and acupuncture for health.

Charles, an internationally known teacher of body movement, was raised in a system of healing developed within the midwestern working class during the 19th century:

> "My father is a chiropractor and I was 'adjusted' from the earliest age. I remember being in a car accident when I was ten and having a whiplash. My father took me to another chiropractor because the insurance company wouldn't let him do the diagnosis. From hearing them talk I developed the impression that some of my thoracic vertebrae had been pushed too close together. I felt stiffness there for years. My neck was adjusted many times. This helped relieve the pain, but I never felt I knew where the right position of my head and neck were. Also, I felt that someone else had to adjust my spine using their hands in order for it to be ok. I could not do this on my own simply by walking, breathing, or feeling my weight. I didn't trust MDs to know anything about my back, but I didn't trust myself either. When I first started doing Chinese movement I remember being surprised whenever I felt my spine reposition itself. Later, after learning Sufi dancing, I remember being surprised when I just took a relaxed breath while standing, and my whole back realigned."

Another major deconstruction is in the area of sociopolitical thought. Although Karl Marx initiated this movement in the middle of the 19th century, it did not gain momentum until the last 20 years, due to the work of the late Michel Foucault. Marx had argued that a person's economic class affected his or her experience and definition of "the body." Alienation is a physical reality, a creation in the flesh. The care-burdened man's experience of his body, he pointed out, is radically different from that of the man of leisure. The former learns to feel and think of his body as a beast of burden or as a machine; the "soul" is his only place of



(Right) Kneeling erect, prostrating, standing, and sitting on angular wooden benches characterize Western spiritual techniques. The emphasis on the vertical body suggests a reaching from earth toward heaven. The line from foot through knee and hip to spine is straighter than one finds in bodies shaped for the lotus posture, which is the somatic ideal of Buddhism (lower right). The implication of the Buddhist practice of "sitting" is that sitting quietly, ignoring the pains and impulses of the body, is the key to truth.

freedom. For the man of leisure, the body is the source of maintaining status, and the source of great pleasure. Foucault carried on these seminal arguments in his analysis of the body as the focal point for struggles over the shape of power. Population size, gender formation, the control of children and of those thought to be deviant from the society's ethos are major concerns of political organization — and all concentrate on the definition and shaping of the body. Moreover, the cultivation of the body is essential to the establishment of one's social role. The contrasts between these two women, both from the South — the first from the upper class; the second, lower — illustrate how body-shaping functions within the sociopolitical order. The first writes:

> "My body was blessed with easy access to medical, dental, and orthodontic care. Being blessed with 'good genes' we were obliged to take care of our health and appearance. Posture was very important to all my formative influences: family, school, church, and country clubs. 'Stand up straight, sit up straight, keep your spine erect, chin up, hold in your stomach, tighten your fanny and pull your shoulders back.' Daddy's military-school injunctions were the same as Miss Hutchison's school for girls. We stood when the teacher entered the room, were told to walk not run quietly through the halls, and neither spread our legs, nor cross them. Ballet and toe-dance classes straightened us out even more. Ballroom dancing classes were another critical source of body training. Like the princesses in our fairy tales we were supposed to be regal, graceful, serene, elegant, demure, and of course slender, like Grace Kelly and Audrey Hepburn.
>
> "There was physical education at school and summer camp, at University Club and the country club. I learned volleyball, basketball, track, softball, soccer, archery, canoeing, sailing, English and Western riding, swimming, badminton, croquet, water-skiing, golf and bowling. These were cultural necessities, not fun to do because they set up competitiveness about the way we looked and scored."

The second woman, born in the Appalachians, was shaped by a life working on the farm, being physically and sexually abused, and cloggin' down at the gas station on Saturday night.

> "I was never taught, nor needed to learn for social reasons (or able for economic reasons) ballroom dancing, ballet, or modern dance. I did learn folk dancing, rock and roll, and the traditional dance of the area, 'cloggin'.' I loved the folk dancing, the reels, squares, etc. — the clear sense of a communal form, the energy and groundedness of it. Everyone needed to participate fully and equally to

complete the pattern, much like the pieces that come to complete the patchwork quilts."

In those stories you read the description of two different social organizations anchored in bodily form, hierarchical and populist, each with its own characteristic diseases and pleasures, ideals of beauty and ethics.

"WHOSE BODY?" IS A question which comes from a century of psychological research in the area of body-image. Sir Henry Head, while treating wounded soldiers, found that a sense of one's body as something with two legs persisted even when a leg or two had been amputated. At the same time (around 1890) Sigmund Freud was struck by the case of a patient who, though manifesting no neurological damage, dragged his left leg as if it had been paralyzed. Early research by such scientists as Paul Schilder and Seymour Fisher has illuminated the vast differences among people's perceptions of their bodies. When anyone says something about "my body," we now know that what that person means may differ radically from what another means. One person may have learned to experience himself as a sophisticated computer, with a hard-edged sense of boundaries between himself and others, containing a collection of imaginatively well-defined "parts." Another may, by contrast, experience her body-boundaries as constantly in a state of flux, like the boundaries between a stream and its banks, and have very little sense of specific body parts but a general sense of different textures of internal energy.

In striking contrast to the dualistic sense of the body, which is most common in Western literature and philosophy, is this image written of Truong, a Vietnamese philosopher who now works as a counselor for fellow refugees in the San Francisco Bay area:

> "I remember my mother. Her way of taking care of the family's health had brought the cosmic and human dimension to my body. Thanks to her, my individual life embodied the cosmic life, not separated from it. And we lived a life that was not abstracted from the actual life that lived us.
>
> "Living on a land where food was not abundant, I know how important the art of cooking is. Meal is medicine. In preparing food, my mother could use medical quality and tastefulness to compensate for deficiency in nutrient and calorie. Every day while walking in the market place, talking to people, or on the way home, my mother always diagnosed the rhythms of the environment so she could prescribe the appropriate meal for my family. Feeling 'the strange wind,' listening to the unusual bird's song, looking at the insect's activities, or seeing the unseasonal fruit, she could detect the change in the environment, and tried to cook the meal so that the health of the family could be protected properly. In the case of emergency, she knew where to get the medicine, even in the wilderness or in the neighbors' gardens. My mother could tell the story of any scar on her children's bodies. She remembered all the marks and spots that carried her hope and fear for the future of her children according to her belief in physiognomy."

His training in that physiognomy, a highly sophisticated system of mapping body structures based on ancient Vietnamese texts, began when he was 14 years old and his uncle diagnosed his future in terms of that system. "I learned to understand human characters and fortunes through all parts of the body. With that kind of learning, I never see the human body isolated from the whole context of life."

As in the other stories I've told, Truong's contains traces of all the deconstructions: our experience and definition of our bodies at any moment is shaped by many layers of reality ranging from the biological to the spiritual. Learning to range more widely within them fertilizes our imaginations, making it easier for us to think of new strategies for shaping ourselves and the world medically, artistically, socially, sexually, athletically, psychologically.

The most profound effect of the deconstructions has to do with creating a global pluralism. The religious and secular fanaticisms which are tearing apart the planet are anchored in notions about the nature of human beings so rigid that their adherents feel it necessary to shape everyone else to their own point of view. In the 1960s, deconstructions of the concept of the divine made it possible for non-fundamentalist Catholics, Protestants, Jews, Buddhists, Hindus, Moslems, and Native Americans to join in a powerful social movement to shape the world according to shared human values instead of fighting to concretize a particular definition of god. Similarly, the bodily deconstructions are making it possible for men and women in a variety of areas — the biological and human sciences, body therapies, art, philosophy, sociopolitical thought, etc. — to join together to counter those forces which are degrading the sensible world under the guise of less tangible ideals. The body deconstructions erode sectarian certainties, revealing the rich and unique messages borne in the bodies of each person and culture — messages which, like a social body's special crafts and liquors, are better savored than maimed. ■

The ideal spine, designed by Ida Rolf.

The Body

Like many views from afar, this radical analysis of Western thought from the perspective of a Japanese Buddhist cuts deeply into our pretensions. He proposes that the basic difference between Western and Asian structures of thought is this: for the West, mind-body dualism is an essential structure of reality; for Asian thought, it is a poignant aspect of human reality which is to be transcended by the various psychophysical disciplines — meditation, body movement, theater, poetry, flower arrangement, etc. From this perspective, a person is not thought to be fit to make statements about reality until he or she has passed through these disciplines. Western thought, therefore, is the crude expression of undeveloped sensibility. —*Don Hanlon Johnson*

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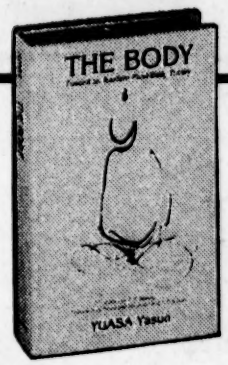
One of the characteristics of Eastern body-mind theories is the priority given to the questions, "How does the relationship between the mind and the body *come to be* [through cultivation]?" or "What does it *become*?" The traditional issue in Western philosophy, on the other hand, is "What is the relationship between the mind-body?" In other words, in the East one starts from the experiential assumption that the mind-body modality changes through the training of the mind and body. . . . Only after assuming this experiential ground does one ask what the mind-body relation is. That is, the mind-body issue is not simply a theoretical speculation but it is originally a practical, lived experience, involving the mustering of one's whole mind and body. The theoretical is only a reflection on this lived experience.



The Body
(Toward an Eastern
Mind-Body Theory)
Yuasa Yasuo, 1987; 256 pp.
$14.95 ($16.95 postpaid) from:
State University of New York Press,
P. O. Box 6525, Ithaca, NY 14850;
518/472-5000
(or Whole Earth Access).

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In composing *waka* [31-syllable poems], one should prepare oneself to assume the correct posture. If one becomes accustomed to composing in an unrestrained posture such as standing or lying down, one cannot compose at all on formal occasions. . . . My father admonished me not to compose *waka* even for a short while without the correct sitting posture.

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Experience in the everyday world is common to us all; everyone has it naturally. In contrast, the lived experience of "body-mind molting and falling off" through seated meditation is not immediately given in the field of natural, ordinary experience. It is possible to experience it only through a specific, practical means of personal cultivation. . . . the departure point of cultivation assumes not the mind's dominating the body, but rather, the body's dominating the mind. To sit in meditation is to carry out this attitude more thoroughly than one can in the stage of outwardly oriented practice.

The Newsletter of the Study Project in Phenomenology of the Body

This lively and intelligent review of the most abstruse theoretical works about the body, along with the most practical how-to books, has taken its place along with ***WER*** *and the* ***New York Review of Books*** *as my primary sources of reading inspiration. Editor Betsy Behnke, who calls herself a "barefoot phenomenologist," is actually doing what Edmund Husserl originally called upon people to do, getting back to things themselves by descending into lived experience. This is a particularly valuable journal for body-workers who are starved for intellectual activity, and for academics who feel untethered from the real.*
—*Don Hanlon Johnson*

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News Of Work In Progress

Edward S. Casey (SUNY — Stony Brook), whose book *Remembering* is reviewed in this issue of the SPPB Newsletter, is currently working on a book-length phenomenological study of place, in which investigations of the lived body in place will play a key role. Some of the themes he is involved with include orientation, navigation, and ritual, and he is also making use of Piagetian psychology.

Ross Nicols and David Rehorick (Fredericton, New Brunswick) are beginning a phenomenological investigation of body therapy, focusing on the way relations between practitioner and client are experienced. Themes to be explored include perceptions of body energy, the idea that memory is stored in muscle, experiential evidence for privileged points of connection with another's body (such as acupuncture points), and shared breathing patterns.

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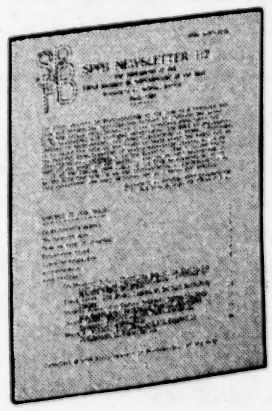
One current task of the SPPB is to develop an "introduction to phenomenology," with special reference to a phenomenology of the body, for somatic educators and others who are not yet conversant with the distinctive terminology and methodology of phenomenology. All readers . . . are encouraged to contribute to this project with your suggestions and, even better, with your questions.



SPPB Newsletter
Elizabeth A. Behnke, Editor
$6/year (2 issues) from:
Elizabeth A. Behnke, Study Project in
the Phenomenology of the Body,
P. O. Box 0-2, Felton, CA 95018

NOTES ON EDUCATION **Antioch University—San Francisco**

The Program in Somatic Studies offers the M.A. in Clinical Psychology (leading to the license in Marriage, Family, and Child Counseling) with a concentration in Somatic Psychology and Education, and the M.A. in Somatic Psychology and Education (for persons not desiring licensing). Course offerings cover two general areas: body-based psychotherapy and body-oriented education. For more information, write to:

Don Johnson, Coordinator
Somatic Studies Program
Antioch University
650 Pine Street
San Francisco, CA 94108

See also Don H. Johnson, "Principles versus Techniques: Towards the Unity of the Somatics Field," Somatics 6:1 (Autumn/Winter 1986-87), 4-8.

BODYWORK *BY RICHARD DITZLER*

RECEIVING A BODYWORK SESSION is a "time out" from your regular schedule. It's a time, simply, to experience the bodyworker's touch, as he or she manipulates your body's tissues. During the session, questions come to you: "Is the touch relaxing, or is it painful?" "What holds my shoulder together?" "Why do I feel so sad when the bodyworker works in the tissues of my chest?" "How does my body relate to gravity?" These sorts of questions raised during an effective bodywork session can lead to increased awareness. How does awareness benefit you? A series of small awakenings can help you unlearn ingrained patterns of unhealthy emotional and bodily behavior, and learn how to live in your body anew.

One of the goals of bodywork is the merging of body and mind. Usually considered as separate entities, body and mind are beginning to be looked at as two sides of the same coin. Often, when people receive a series of bodywork sessions and begin to listen more to the signals their bodies are putting out, they come to realize how much attention they previously gave to the thinking mind rather than the organism as a whole. This integrated experience of the body/mind makes it easier to deal with the stresses of everyday living.

Bodywork is a general term given to a number of hands-on body therapies that maneuver or manipulate the tissues of the body. Bodywork is a very old art; there are references to the use of the therapeutic touch going back as far as 2,000 B.C. in China. In this century, particularly in the last two decades, the practice of bodywork has grown greatly as people begin to take responsibility for their own health and move away from the idea of the all-knowing doctor.

The following list of publications is by no means comprehensive, but meant to give you the basic ideas behind bodywork.

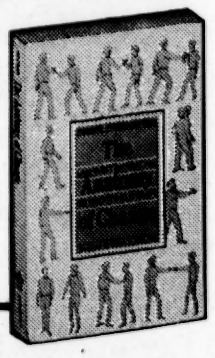
The Anatomy of Change

What do you do when you lose your job? How do I react if my spouse tells me she wants to separate? How does a person act when a loved one dies? Chances are, none of us learned to negotiate such difficult life transitions as this in our education system. Richard Heckler outlines how we respond to nearly all our traumatic life situations in the same way with what he calls our "conditioned tendency," and, more importantly, how we hold this "tendency" in each of our bodies as a stance in the world.

With numerous case studies, martial-arts exercises, and meditation techniques, Heckler encourages bodily awareness of this "tendency," using it as a reference point in beginning to experience the "life

The Anatomy of Change
Richard Strozzi Heckler, 1984; 138 pp.

$11.95 ($12.95 postpaid) from: Random House, Inc. /Attn.: Order Entry, 400 Hahn Road Westminster, MD 21157; 800/638-6460 (or Whole Earth Access).



Job's Body

In my nine years as a bodyworker, I've noticed a lack of recognition of bodywork as a viable health-care option by the medical establishment. Deane Juhan's ***Job's Body*** *helps me understand why. Until now, there hasn't been a publication with a real scientific basis that shows how bodywork "works."*

This not a "how-to" book, nor is it only for bodyworkers. It's for anyone interested in how the body functions, and its healing potential. The author's literary background transforms the human anatomy into eloquent and flowing prose. Particularly impressive is his synthesis of the interplay between the sensory and motor impulses of the nervous system that enable such refined muscular efforts as sports, dance, music, and the visual arts.

Juhan concludes with a physiological discussion of disease and health in the human body, and of how stress and other factors contribute to habitual cycles of physical and psychological suffering that undermine health. Using drugs to break these cycles has some positive results, though side effects may create new cycles. Juhan suggests how meditation, yoga, the martial arts, and bodywork can break these cycles and encourage movements toward health. —RD

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In the language of movements, then, the neurons of the spinal cord and their specific interconnections are the words and the grammatical structures. I am not free to alter the patterns of the spinal circuits any more than I am free to alter the conventions of the language I am speaking if I am to make a coherent statement. The execution of a voluntary gesture, like the uttering of an original sentence, can only be accomplished by the appropriate arrangement of basically inflexible sub-units. These circuits and reflex arcs, like the definitions of words and the rules of grammar, cannot ordinarily be changed, and yet there is no limit to the number of original and meaningful statements that can be built up with them. The cortex can initiate literally any sequence that it can distinctly imagine, as long as it is consistent with anatomical limitations.

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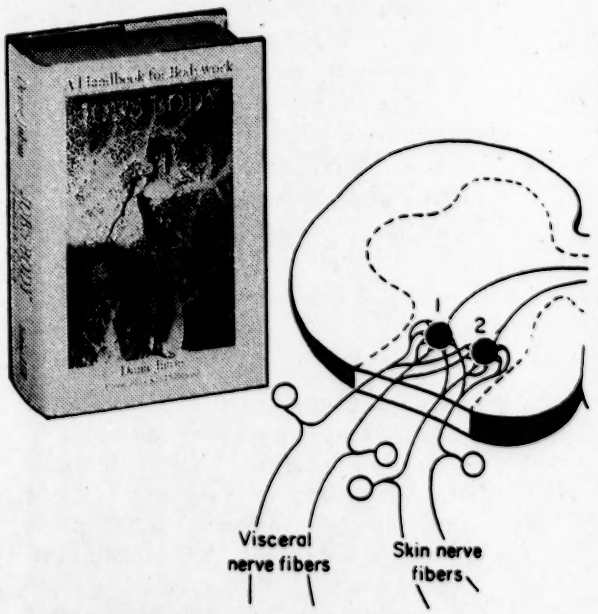
There is certainly nothing mysterious, or illusory, or temporary about the benefits of effective bodywork. Bodywork is simply a method of educating, or re-educating, motor responses, a method which capitalizes upon the central role played by tactile stimulation in the selection and reinforcement of patterns of muscular activity. New ways of posturing and moving cannot be readily learned until the characteristic tension patterns developed by old habits of movement and posture are removed, until the muscles in question are relaxed: "Muscular relaxation . . . is a prerequisite to any type of successful muscle retraining."

Job's Body
(A Handbook for Bodywork)
Deane Juhan, 1987; 365 pp.

$29.95 ($31.95 postpaid) from: Small Press Distributors, 1814 San Pablo Avenue, Berkeley, CA 94702; 415/549-3336 (or Whole Earth Access).



The mechanism of "referred" pain. Pain from internal organs may seem to come from areas of skin or muscles, because the signals may be transferred in the internuncial circuits of the spinal cord. This referral mechanism can sometimes make the actual source of the pain very ambiguous. Indeed, referrals can create muscle spasms which themselves begin to generate pains in addition to the original visceral one. This can become a very vicious circle.

of the body." Finally, the author relates how this microcosm of personal, bodily change expands to be a metaphor for society and humanity as a whole. —RD

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It is important to remember that center is a state of being that is not confined to a certain posture or a constantly held image. Because it is through the body that we are working, the state of center is always available, despite our posture, physical handicaps, or environment. Ultimately, center is an inner subjective state that is manifested through the body. In other words, we can relate to center from any number of positions or actions. Lying down, sitting, carrying a sleeping child, washing the dishes, or driving a car can all be done from center. Being with center is an attitude toward ourself, and this attitude, formed by the boundaries of our lived body, is one in which we feel bodily present to ourself and our situation.

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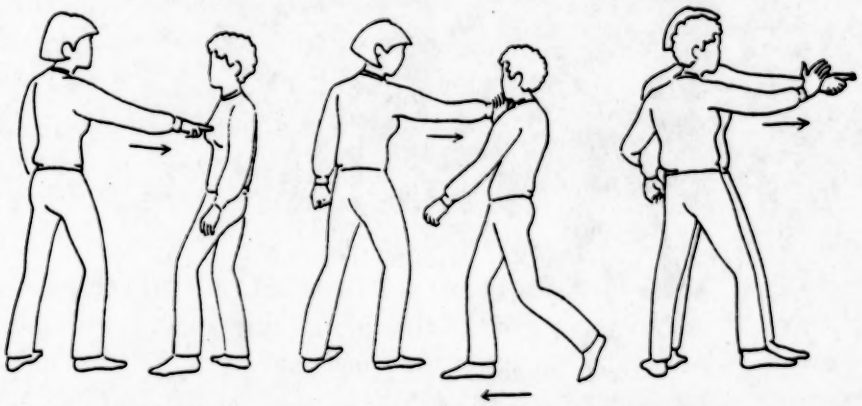
Stand facing your partner with both of you in right *hammi*, that is, with right foot forward (below). Have your partner point his finger at your chest. This can represent a point of conflict. First feel what it is like to go directly against his energy and intention. Now enter to his right side and blend as totally as possible with his position. Do this not only bodily but with your attitude. See the world from his point of view. Now that you've entered and blended with his position, feel his weight, his balance, his power, and the commitment of his intention, and blend with them.



Massage Therapy Journal

This quarterly, the publication arm of the American Massage Therapy Institute, is certainly for the practitioner. But its many articles, interviews, and book reviews make the journal interesting and informative for the active person, and anyone interested in touch. Recent issues have included exercises to stop neck pain, information on the correct fluid intake for racers, dance injuries in the American Ballet Theater of New York, and being on tour with Sting as his massage therapist.

One regular columnist is Dr. Ben E. Benjamin, whose book ***Listen to Your Pain*** *was reviewed in* ***EWEC*** *(p. 238).*
—RD

Massage Therapy Journal

David Lauterstein, Editor

$15/year (4 issues) from AMTA, P. O. Box 1270, Kingsport, TN 37662.

Disc protrusion.

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The "slipped disc" is a popular misnomer. Discs almost never slip, but they crack and they chip, and they bulge and ooze out to cause painful pressure on spinal nerves. The discs that lie between the lower-back vertebrae are like half-dollar-sized plastic bags filled with a squishy substance that looks like crab meat. They hydraulically cushion the movement of spinal bones and act as shock absorbers. The lumbar discs are the thickest of all the spinal discs, because they absorb the most weight. The discs conform to the shape of the natural forward curve, being thicker in front toward your belly than they are in the back. In the normal standing position, the disc is constantly pushed in an anterior direction. If the disc is injured and protrudes it is, therefore, more likely to protrude anteriorly which causes little or no pain. This is a good arrangement because it is better that the discs protrude anteriorly than posterolaterally (to the back and side) where the nerves exit.

Somatics Magazine

This biannual journal includes articles, case studies, research papers, book reviews, and interviews by and with bodyworkers, scientists, artists, actors, dancers, and martial artists about the interrelationship between the body and the mind.

My interest in this publication is both as a practitioner and as a person concerned with optimal body functioning. —RD

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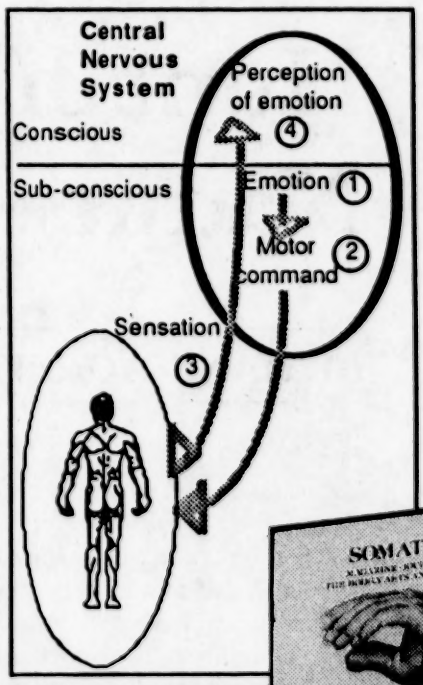
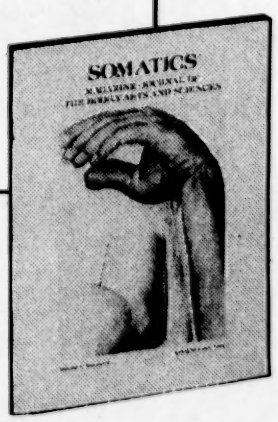
A general improvement in the way we use our skeleton allows us to enjoy the full range of movements of the joints and intervertebral disks. All too often, the bodily limitations that we believe are due to not being limber are, instead, caused by a habitual contraction and shortening of our muscles of which we are not conscious. Unwittingly, our postures become distorted, and the joints of our bodies suffer unequal pressures.

Degeneration of the joint surfaces imposes, in its turn, a further restriction of muscular activity so as to avoid pain and discomfort in movement. Thus, a vicious circle is established, which gradually distorts the skeleton, the spine, and the intervertebral disks, resulting in an elderly body whose range of movements is reduced long before we have become old. Actually, however, age has little to do with this sad event. On the contrary, it is quite possible to restore the body's ability to perform every movement of which the skeleton is capable.



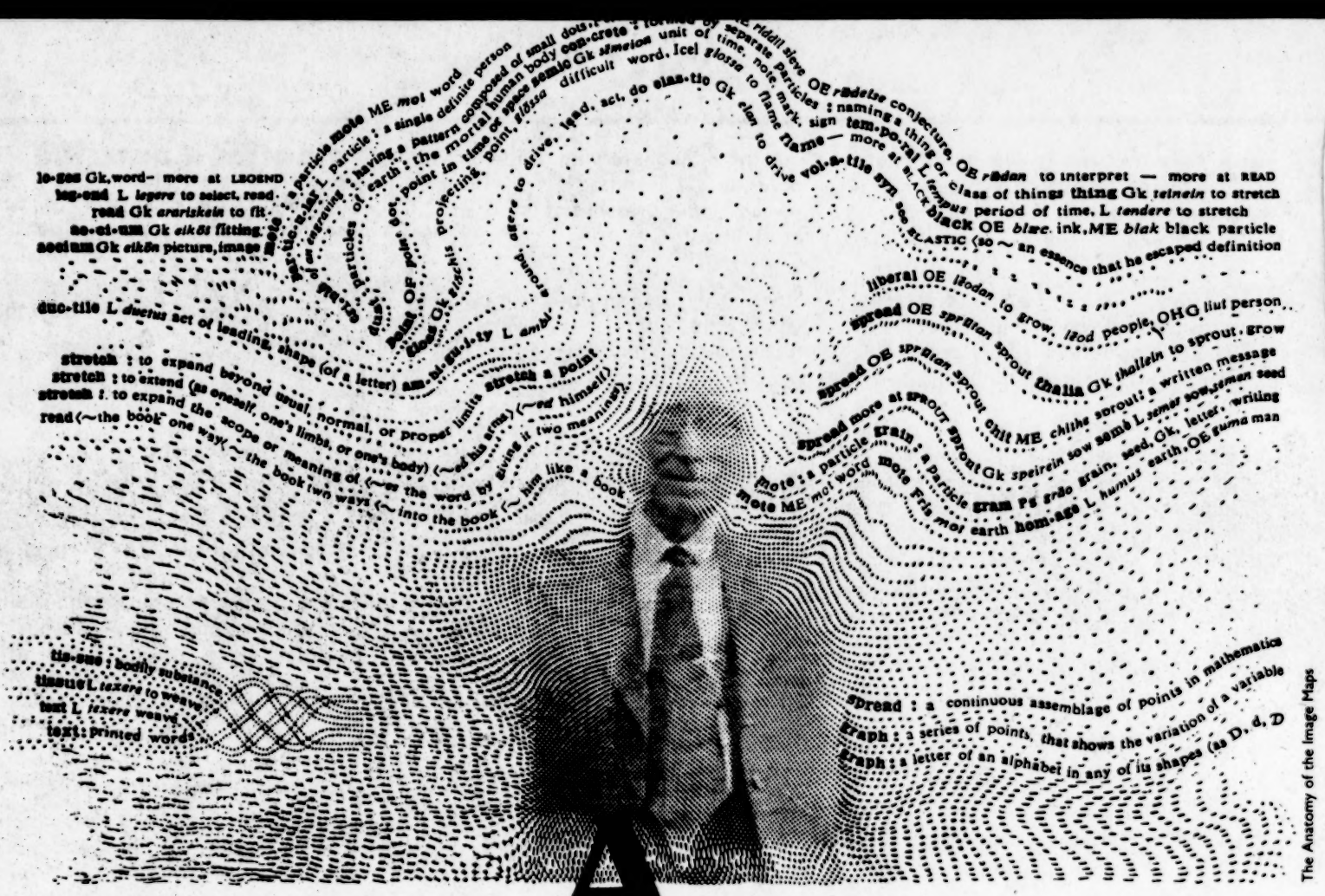
Feeling an emotion.



Somatics Magazine

Eleanor Criswell, Editor

$15/year (2 issues) from Somatics, 1516 Grant Avenue/Ste. 220, Novato, CA 94945; 415/897-0336.



The Anatomy of the Image Maps

The Coming Divorce in Human Nature

BY HANS MORAVEC

Hans Moravec is Director of the Mobile Robot Laboratory of Carnegie Mellon University, where he is engaged in research he hopes will lead to a "postbiological" future. Within 40 years, Moravec believes, we will have the ability to download human consciousness into mobile robots, that is: digitally duplicate the workings of your brain and mind, place them in a robot body, and, if you like, dispose of your original body. Whether or not this will work is still debatable. Moravec thinks it will, and more importantly, he is convinced that downloading is the next logical step in human evolution.

Portions of this article are taken from Moravec's new book, Mind Children *(SIGNAL, p. 207).* —*Richard Kadrey*

A DUALITY IN HUMAN NATURE was recognized long before discoveries in machinery and in evolutionary and molecular biology made a mechanistic explanation of life plausible. The two sides of our being are known traditionally by the mystery-laden terms flesh and spirit or body and soul and more recently as instinct and intelligence, id and ego, or even Mr. Hyde and Dr. Jekyll.

The mystery is diminished in the light of modern evolutionary theory's "selfish gene" concept. According to this idea, organisms are evolutionary inventions, successful because they further the replication of the genes that built them. Bodies are temporary "survival machines" for their potentially immortal (though mindless) genes. But, especially in sexual organisms, a body represents a temporary association of various genes. Later generations will be formed of different shuffles of the genetic deck. It is thus possible that traits that improve the survival chances of one gene may diminish those of another. The association is not always fully cooperative. But the reproductive fates of all the genes in an organism are closely enough aligned that such conflicts usually show up only in subtle ways.

But during the course of human evolution our genes stumbled onto a new kind of genetics, one whose criteria for survival are very different from those of the original genes coded in DNA. The new genetics is human culture, passed from one generation's brains to the next through example and language. Culture would not have survived and flourished if it did not enhance the survival of our DNA genes, but nevertheless the two reproduce independently, and are often in conflict. What is best for continued survival of one is often not best for the other. The most dramatic conflict may be the issue of individual death. Our DNA genes usually survive our death, grouped in different ways in our offspring and our relatives. In a subtle way it is no doubt in their evolutionary interest to regularly experiment like this with fresh shuffles of the evolutionary deck. But the process is devastating for our cultural genes. Many hard-earned skills and memories simply die with us.

The economics of growth and reproduction have conspired to produce a relationship between size and longevity — large animals live longer than small ones. But humans are anomalous in this regard, they live as long as elephants. This anomaly must reflect a compromise between the biological adaptability conferred by frequent gene shuffles, and the survival advantages of enough time in a generation to pass on a significant amount of cultural information to the next. But the bargain was struck a long time ago, when the size of our cultural heritage was far smaller. As the fragmentation of knowledge attests, a lifetime now hardly suffices to scratch the surface of things worth learning.

Culture was able to grow to this extent because it invented ways of exceeding its biological limits. We call the major ones libraries. Libraries still require the action of human beings to make the information active, but the invention of computers is changing that. Our culture is acquiring the ability to express itself independently of our biological genes. Sooner or later our machines will become knowledgeable enough to handle their own maintenance, reproduction, and self-improvement without help. The most obvious indication that we have reached this point will be the appearance of robots with all-round human level abilities. Our culture will then be able to evolve independently of human biology and its limitations, passing instead directly from generation to generation of ever more capable intelligent machinery. In *Mind Children* I provide reasons for believing that this stage will be reached in less than fifty years.

Unbound from one another, our cultural and biological halves will take different courses. Outer space is already a profitable arena for the owners of communications satellites. As transportation costs decline, other activities will start to pay. Space factories will use raw materials purchased from earth or from human space outposts, which will be processed by human-supervised machines and sold at a profit. The high cost of maintaining humans in space ensures that there always will be more machinery per person in a space colony than there is on earth. As machines become more capable, the economics will favor an ever higher machine-to-people ratio. Humans will not necessarily become fewer at this stage; the machines will just multiply faster, becoming ever more competent with each new generation. Imagine the immensely lucrative robot factories that could be built in the asteroids. Solar-powered machines would prospect and deliver raw materials to huge, unenclosed, automatic processing plants. Metals, semiconductors, and plastics produced there would be converted by robots into components that would be assembled into other robots and into structural parts for more plants. Machines would be recycled as they broke. If their reproduction rate is higher than the wear-out rate, the factories will grow exponentially, like a colony of bacteria, on a Brobdingnagian scale. A harvest of a small fraction of the output of materials, components, and whole robots would make the investment pay off spectacularly.

Eventually humans, whether workers, design engineers, managers, or investors, will become unnecessary in space enterprises, as the scientific and technical discoveries of self-reproducing superintelligent mechanisms are applied to making themselves smarter still. Our rapidly evolving cultural offspring will leave our slowly evolving biological genes, and the bodies they build, behind in a cloud of dust.

Today the skills and memories of computers are shared by the routine transfer of programs and data between different machines. Robots of the future will use similar techniques to share their mental states. In time sophisticated scanning techniques may make it possible to move the contents of *biological human brains* into other machinery in a similar way. By such techniques our individual personalities may survive the obsolescence of their biological heritage to join in the future growth and evolution of our cultural progeny.

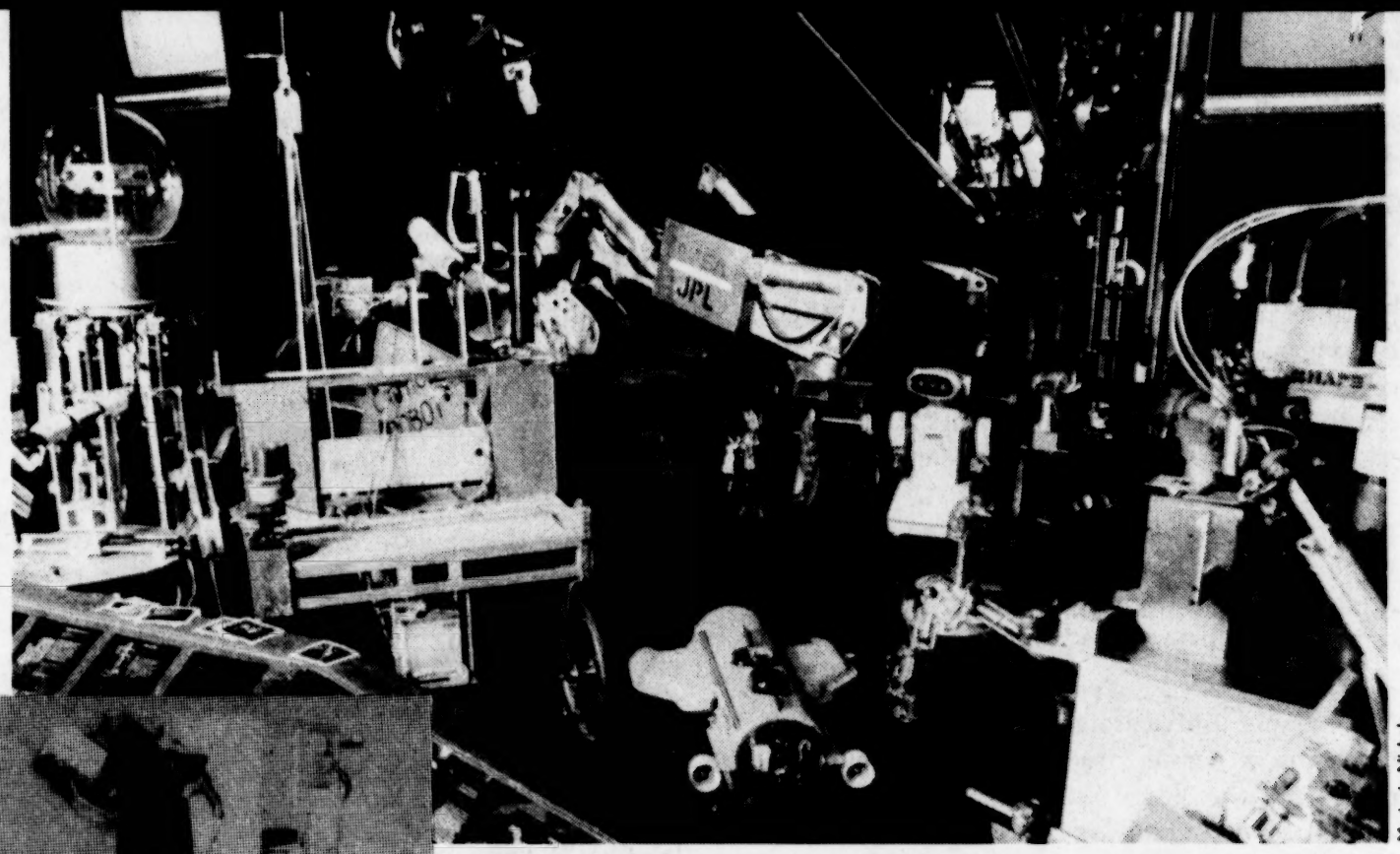
New Bodies

Robot minds will be free to move between radically different kinds of bodies, so the question of just what they will look like is not well defined. But here's an interesting option.

The human world has been shaped by human hands, which are still our most effective general-purpose tool. Yet many useful and easily described tasks are beyond human dexterity (pull tightly on both ends of the string, while holding the knot between your fingers, lift the bundle, wrap the ends around it tightly four times . . .). If such actions are attempted at all, it is with varying degrees of success using special tools and fixtures.

It is unlikely that our superintelligent descendants will be satisfied with mere stumpy fingers. Consider the following observations. Worms and other animals shaped like balls or sticks are unable to manipulate or even locomote very well. Animals with legs (a stick with smaller, movable sticks) locomote quite well but are still clumsy at manipulation. Animals like us, with fingers on their legs (sticks on sticks on a stick), can manipulate much better. Now generalize the concept — a robot that looks like a tree, with a big stem repeatedly branching into thinner, shorter, and more numerous twigs, ultimately ending in an astronomical number of microscopic cilia.

Each intermediate branch would be able to swing forward and backward and side to side while its top, where the next smaller branches are attached, rotates on the branch axis. Possibly the branch could also change its length like a telescope — the number of motions of each branch can be traded off for more levels. Each joint would have sensors to measure its position and also the force it exerts. Although made of branches, each with a rigid mechanical character, the overall structure would have an "organic" flex-



Marjorie Nichols

NASA/JPL

The Smart Machines Theater at Boston's Computer Museum. All of the machines in the exhibit are considered "smart," meaning that each is able to complete a task that, if performed by a human, would require some intelligence. Shakey (far right) is the only robot controlled by artificial intelligence. The A.I. program helped it use objects in a room to build a ramp so that it could push a specific block that it could not ordinarily reach.

Hans Moravec's version of the Stanford Cart was the first robot that could navigate through a cluttered natural environment by processing the information fed to it through TV cameras.

ibility because of the great multitude of ways its parts could move.

A robot of this design could be self-constructing. Tiny bushes, only a few millionths of the weight of the final device, would be "seeded" to start the process. These would work in groups to build the next larger sprigs from available raw materials, then join themselves to their constructions. The resulting larger bushes would join to build even larger branches, and so on until a small crew (of large members) met to assemble the stem. At the other end of the scale, a sufficiently large bush should be able to organize the necessary resources to build the tiny seeds to start the process all over again (or simply to repair or extend itself). It could make the smallest parts with methods similar to the micromachining techniques of current integrated circuitry. If its smallest branchlets were a few atoms in scale (with lengths measured in nanometers), a robot bush could grab individual atoms of raw material and assemble them one by one into new parts.

To make things more concrete, we can do an actual design. Suppose that the basic structure is a large branch that splits into four smaller ones, each half the scale. If we start with a stem a meter long and ten centimeters in diameter and carry the branching to twenty levels, the bush will end in a trillion tiny "leaves," each a millionth of a meter (a micron) long and a tenth of that in diameter. Because of their much smaller weight and size, the leaves can move a million times as fast as the trunk. Let's say that the trunk can wiggle back and forth once per second; so the leaves will vibrate a million times per second. If the bush folds itself into a tight bundle, its cross section will be approximately constant, and it will be two meters long. The trunk will then occupy half that length, the second level half the remaining length, and so on. Unfolded, umbrellalike, it would spread into a disk a little under two meters in diameter, thick but sparse near the center, and thinner at the edge, with smaller gaps that taper off to micron spaces.

If each joint can measure the forces and motions applied to it, we have a remarkable sensor. There are a trillion leaf fingers, each able to sense a movement of perhaps a tenth of a micron and a force of a few micrograms, at speeds up to a million changes per second. This is vastly greater than the sensing ability of the human eye, which has a million distinguishable points that can register changes at most a hundred times per second. If our bush puts its fingers on a photograph, it will "see" the image in immense detail simply by feeling the height variations of the developed silver on the paper. It could watch a movie by walking its fingers along the film as it screamed by at high speed. There is no reason the fingers could not also be sensitive to light and temperature and other electromagnetic effects; indeed, the smallest are the right size to be "antennas" for light. The bush could form an eye by holding up a lens and

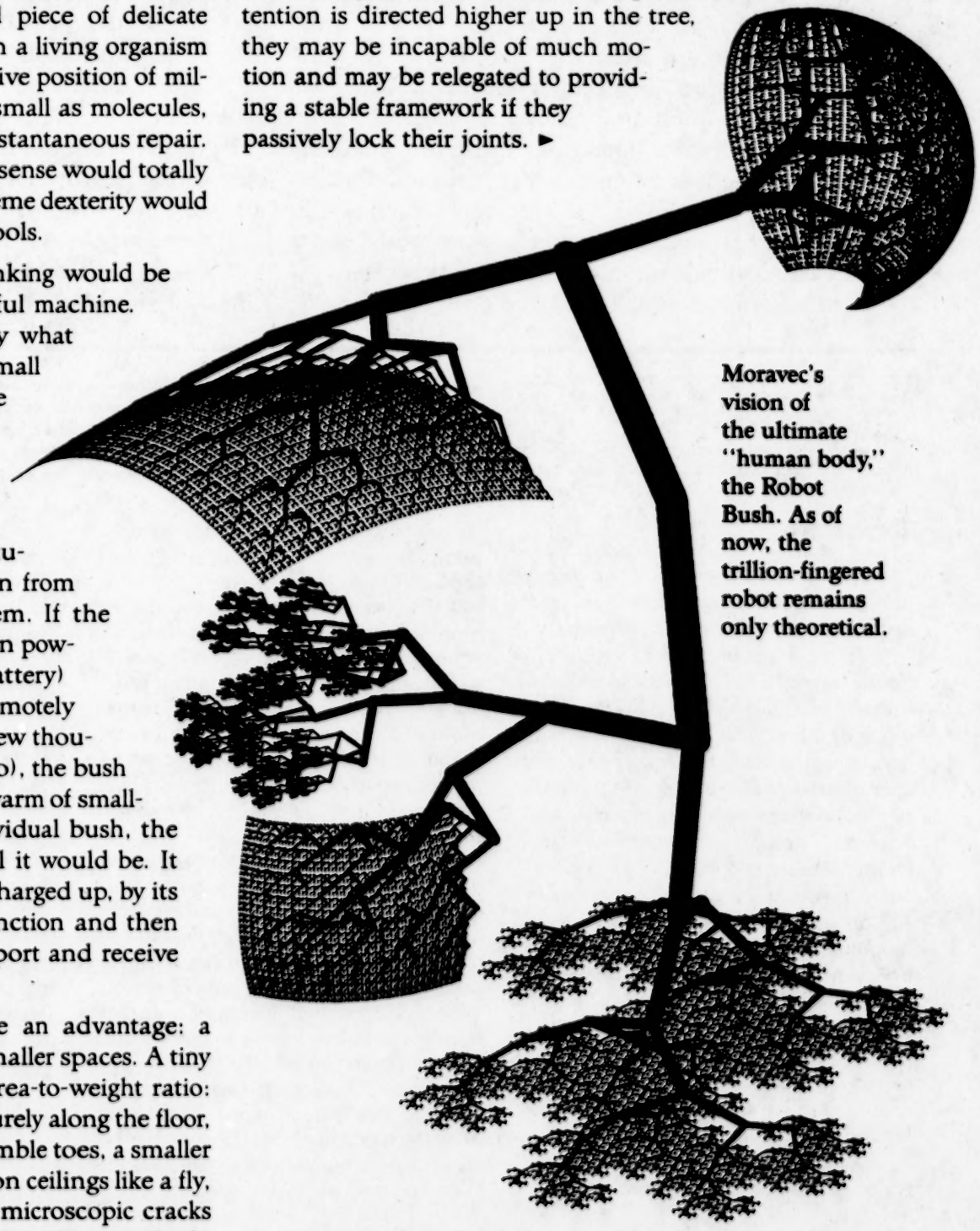
putting a few million of its fingers in the focal plane behind it. It may even be able to get by without the lens by holding a bunch of its fingers in a carefully spaced diffraction pattern, thus forming a holographic lens.

In addition to having a sensing capability to match that of the world's current human population, our bush would have the ability to affect its environment at the same prodigious rate. A well-trained human, using precise and well-timed hand and body motions, each able to change direction at most a few times in a second, with a precision no better than a few percent of the total movement, could conceivably affect the world at a net rate of a thousand bits per second — a fast typist, for instance, produces less than one hundred bits per second of text. The potential data rate of a robot with one trillion fingers, each able to move a million times per second, is more than a quadrillion (10^{15}) times greater. Such high data rates imply huge coordination of enormous processing power, but imagine the possibilities. The bush robot could reach into a complicated piece of delicate mechanical equipment — or even a living organism — simultaneously sense the relative position of millions of parts, some possibly as small as molecules, and rearrange them for a near-instantaneous repair. In most cases the superior touch sense would totally substitute for vision, and the extreme dexterity would eliminate the need for special tools.

An astronomical amount of thinking would be required to control this wonderful machine. Much of it might be handled by what in animals are called *reflex arcs*, small bits of nervous system near the site being controlled. Each of the small branchlets could contain enough of a computer to control most of the routine activity; only exceptional situations would require intervention from larger computers nearer the stem. If the branches also contained their own power source (think rechargeable battery) and a way of communicating remotely (radio, or sound vibrations of a few thousand synchronized cilia, would do), the bush could break into a coordinated swarm of smaller bushes. The smaller the individual bush, the less intelligent and less powerful it would be. It would be preprogrammed, and charged up, by its home stem to perform some function and then return as soon as possible to report and receive new instructions.

Small size would frequently be an advantage: a smaller robot can squeeze into smaller spaces. A tiny machine has a greater surface-area-to-weight ratio: while a large bush could walk securely along the floor, using its branches as so many nimble toes, a smaller machine should be able to walk on ceilings like a fly, with the tiny cilia holding onto microscopic cracks in the paint or sticking by molecular adhesion. Bushes could burrow by loosening particles of dirt and passing them backward, and swim efficiently by assuming a tight, streamlined shape, with the cilia forming a skin that pumps fluid to propel and also responds to the flow to prevent turbulence. Extremely small machines will have so much surface area for their weight that they can fly like insects, beating their cilia in patterns optimal for moving air.

The contribution of the bigger branches to the power and intelligence of the smaller ones can be visualized as a kind of reverse pyramid scheme. Each level (counting all the twigs at that level) of our robot has twice the volume of the next smaller level and thus room for twice the power supply and twice the computer. Two levels down, the ratio is four to one, and at three levels it is eight. If the control and power for each level are piped up from the branches three steps closer to the stem, the small branches can be four times as vigorous as otherwise. Only the stem and the first few branches radiating from it would be shortchanged. Since most of their power and attention is directed higher up in the tree, they may be incapable of much motion and may be relegated to providing a stable framework if they passively lock their joints. ►

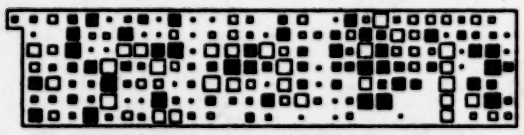


Moravec's vision of the ultimate "human body," the Robot Bush. As of now, the trillion-fingered robot remains only theoretical.

© 1989 Hans Moravec

A big question is how the control programs for such a beast would work. In the extreme case one could imagine a program that would try to determine the combination of actions of each individual joint that would best accomplish the desired task. This is almost certainly an example of a colossal NP (nondeterministic polynomial) problem that can be optimally solved only by essentially examining every possible combination of motions and picking the best. Such solutions are intractable these days even for simple manipulators that have only a handful (!) of fingers. Though computers will be vastly more powerful in the future, the problem posed by a system with a large number of fingers is much, much bigger still. From time to time an especially clever strategy for coordinating thousands or millions of fingers to accomplish a particular task may be discovered, and collections of clever strategies will be passed between individuals — the manual skills of the superintelligent era. But while humans teach skills as simple as how to tie a shoelace, the lessons of superintelligent machines may be more comparable to instructions for assembling an airliner. While finding the best possible solution for routine problems will usually be out of the question, finding a good enough one may not be too hard. I imagine a divide-and-conquer strategy, where the stem considers the overall problem and generates plausible subtasks for each of the four subtrees immediately connected to itself. These further subdivide the problem and pass those fragments on, and so on. The smallest branches would receive simple commands like move to a certain position, or move until resistance is met. A command from the stem might be something like: *North bush — stay on left side of plane A, and right side of plane B, and apply net force vector V to object; East bush — stay on right of A and B, and resist any motion more than 10 cm from the axis; South bush — right of A, left of B, apply force negative V; West bush — left of A and B, and resist.* If a subproblem, as passed to a small bush, cannot be solved, a complaint would be sent back to the originating branch, which would then go back to the drawing board to try something else.

A bush robot would be a marvel of surrealism to behold. Despite its structural resemblance to many living things, it would be unlike anything yet seen on earth. Its great intelligence, superb coordination, astronomical speed, and enormous sensitivity to its environment would enable it to constantly do something surprising, at the same time maintaining a perpetual gracefulness. Two-legged animals have three or four effective gaits; four-legged animals have a few more. Two-handed humans have two or three ways to hold an object. A trillion-limbed device, with a brain to match, is an entirely different order of being. Add to this the ability to fragment into a cloud of coordinated tiny fliers, and the laws of physics will seem to melt in the face of intention and will. As with no magician that ever was, impossible things will simply *happen* around a robot bush. Imagine inhabiting such a body. ■



A neural net is a network of powerful computer chips that simulate the workings of neurons in the brain. Terrence Sejnowski and Charles R. Rosenberg developed this alphabet to teach a neural net to read and speak English text. The alphabet uses 203 symbols to represent letters, punctuation, and word barriers. In an experiment using a 1,000-word transcription of a child's speech, the net was able to read and speak the text with 95-percent accuracy.

Daedalus

The debate over Artificial Intelligence has become wildly complicated in the last couple of decades. It's no longer "Will it work?," but "Should we do it?," "How will we build it?," "Who will control it?," and "Do we actually know what it (mind) is and how it works?" All these questions and more are explored in this special issue of ***Daedalus****, the journal of the American Academy of Arts and Sciences. Since this is mostly an academic journal, the writing gets a little thick at times. If you're just getting interested in AI, this is NOT the place to start your reading. Try Marvin Minsky's* ***The Society of Mind*** *(**Signal** p. 202) and Grant Fjermedal's* ***The Tomorrow Makers*** *(**Signal** p. 203). When you're ready to dive into the minutiae of AI, the neural-network debates, the uncertain position of AI within the sciences, then read this fascinating collection of essays from some of the most profound critics and boosters of AI around. —Richard Kadrey*

•

It is one of the ironies of intellectual history that Wittgenstein's devastating attack on his own *Tractatus*, his *Philosophical Investigations*, was published in 1953, just as AI took over the abstract, atomistic tradition he was attacking. After writing the *Tractatus*, Wittgenstein spent years doing what he called phenomenology — looking in vain for the atomic facts and basic objects his theory required. He ended by abandoning his *Tractatus* and all rationalistic philosophy. He argued that the analysis of everyday situations into facts and rules (which is where most traditional philosophers and AI researchers think theory must begin) is itself only meaningful in some context and for some purpose. Thus, the elements chosen already reflect the goals and purposes for which they are carved out. When we try to find the ultimate context-free, purpose-free elements, as we must if we are going to find the primitive symbols to feed a computer, we are in effect trying to free aspects of our experience of just that pragmatic organization which makes it possible to use them intelligently in coping with everyday problems.

•

When a holographic plate is cut in two, each half contains a slightly degraded version of the entire image. Distributed representations with properties similar to holograms are often used within conventional digital computers, and they are invisible to most users except in the system's capacity to tolerate errors. The error-correcting memory system used in most computers is a good example. The system is composed of many physically separate memory chips, but any single chip can be removed without losing any data. This is because the data are not stored in any one place, but in a distributed, nonlocal representation across all of the units. In spite of this "holographic" representation, the information storage capacity of the system is no greater than it would be with a conventional representation, in which each piece of data is stored in a single chip. In fact, it is slightly less.

Daedalus
Seymour Papert, Editor
1988; 311 pp.

$9.95 ($11.45 postpaid) from:
MIT Press, 55 Hayward Street, Cambridge, MA 02142; 617/253-2884.

Dangerous Liaisons: Quotations on the Body

IF you can make a machine that contains the contents of your mind, then that machine is you. The hell with the rest of your physical body, it's not really very interesting. Now, the machine can last forever.

—Gerald Jay Sussman, M.I.T
Professor and legendary hacker

I will say this quite explicitly: There's nothing left after you've destroyed the human species! Humans are the ultimate value. It's so fundamental. Everything else is based upon that. I think one can use other vocabulary for this: Genocide of the human species is the murder of God.

—Joseph Weizenbaum, M.I.T.
Professor and inventor of
the ELIZA program

Out of my flesh that hungers
and my mouth that knows
comes the shape I am seeking
for reason

—Audre Lorde, feminist author

I have said that the soul is not more
than the body,
And I have said that the body is not
more than the soul,
And nothing, not God, is greater
to one than one's self is.

—Walt Whitman

You ask me to dig in the earth? Am I to take a knife and plunge it into the breast of my mother?

—Chief Smohalla

I think that the species is just a step in evolution. I'm sure the chimpanzees thought people were a bad thing.

—Marvin Minsky, artificial
intelligence pioneer

AS a matter of fact, man, like woman, is flesh, therefore passive, the plaything of his hormones and of the species, the restless prey of his desires.

—Simone de Beavoir

I do believe the flesh should not be despised. If the flesh is not sacred, holy, then we are trapped in the muck of the profane, because the body is all we have. All knowledge, reason, truth, beauty, it is all reducible to physical sensation and actions performed by the agency of the flesh.

—Pat Califia, writer
and sadomasochist

Nature is man's inorganic body.

—Karl Marx

Doing anatomy was an eye-opener: one had built one's whole life on an illusion about the integrity of one's body, this "solid flesh." One mythologizes one's familiar bits of flesh and tendon. Then to see a cadaver on a dissecting table and begin to dissect it myself and at the end of the term that there was nothing left except a sort of heap of gristle and a clutch of bones with a label bearing some dead doctor's name — that was a tremendous experience of the lack of integrity of the flesh.

—J.G. Ballard, author of
Empire of the Sun

Despite the fact that they are made of materials more lasting than our bodies, machines grow older more rapidly than we do. They are inventions and manufactured objects; our bodies are re-productions, re-creations. Machines wear out and after a time one model replaces another; bodies grow old and die, but the body has been the same from the appearance of man on earth until now. The body is immortal because it is mortal; this is the secret of its permanent fascination — the secret of sexuality as much as of eroticism.

—Octavio Paz

When the sacred is immanent, the body is sacred. Woman-body, man-body, child-body, animal-body, and earth-body are sacred. They have an inherent integrity and inherent worth. All of our bodily processes, especially the deep, pleasure-giving force of our sexuality, are sacred processes.

—Starhawk, writer and pagan

Almost everything ever written can be understood as an embodiment of its time and as related to body perception.

—Barbara Duden

The body, which was once the temple, has become a living tomb. The body has lost relation to the world in which it moves. It is in this way that a world dies. The form dies first. But, though few perceive it, are aware of it, the form could not have died unless the spirit had already been killed. Whilst the deterioration of the body takes place — a process which may require many centuries — life loses its significance.

—Henry Miller

THE human body is an instrument for the production of art in the life of the human soul.

—Alfred North Whitehead

Beauty is momentary in the mind —
The fitful tracing of a portal;
But in the flesh it is immortal.
The body dies; the body's
beauty lives . . .

—Wallace Stevens

It is better to control a restrictive and hostile emotion . . . than a generous and expansive one such as love. Conventional morality has erred, not in demanding self-control, but in demanding it in the wrong place.

—Bertrand Russell

Already there is talk of creation of androids for sexual purposes. I think you are going to see an industry develop in the sexual-appliance area. At first it will be machine appliances, and eventually you will see biological substitutes or surrogates for human sexual organs being employed in stationary and mobile machine systems.

—Arthur Harkins,
cultural anthropologist

In expressing love we belong among the underdeveloped countries.

—Saul Bellow ■

REDESIGNING THE BODY —

Hands Writing — *Tokyo 1982*

BY STELARC

Stelarc is an artist concerned not only with aesthetics, but with human evolution. From 1976 to 1983, he performed a series of "suspension events." Allowing his skin to be pierced by sterile hooks, he was suspended in museums, over a street in Copenhagen, and in other environments. The stretching and distorting of Stelarc's flesh was his way of demonstrating what he considered to be the severe limitations of the human body in gravity. Stelarc called these events "Obsolete Body Suspensions." A book documenting these performances was reviewed by JC for the Winter '87 WER *(#57, p. 125). Since discontinuing the suspension events, Stelarc has developed performances using a prosthetic third hand, and taken time to deliver a paper to artificial-intelligence researchers at Stanford University. What follow are Stelarc's theories on why the human body is obsolete and what he believes the next step in human evolution will (or ought to) be.* —*Richard Kadrey*

BETWEEN GRAVITY AND FANTASY. The body is now suspended between the inward pull of gravity and the outward thrust of information. The most significant planetary pressure is no longer the gravitational force, but the information field. In the past our evolutionary form has been molded by 1G; from now on our direction and development will be determined by the information flow.

BIOTECH TERRAINS. Humans now inhabit a landscape of technology that cues, conditions, and circulates the body. Biotech terrains conceal countless *body pacemakers* that alert and activate people, directing them in predetermined patterns and velocities.

BEYOND THE HUMAN SCALE. The significance of the technological terrain lies not merely in the pure power it generates but *the realm of abstraction* it produces through its operational speed, precision, and the development of different sense-systems. The body is immersed in an increasingly intense information field that cannot be absorbed and creatively processed by the individual. Artifacts exceed human sensing whilst information goes beyond human comprehension.

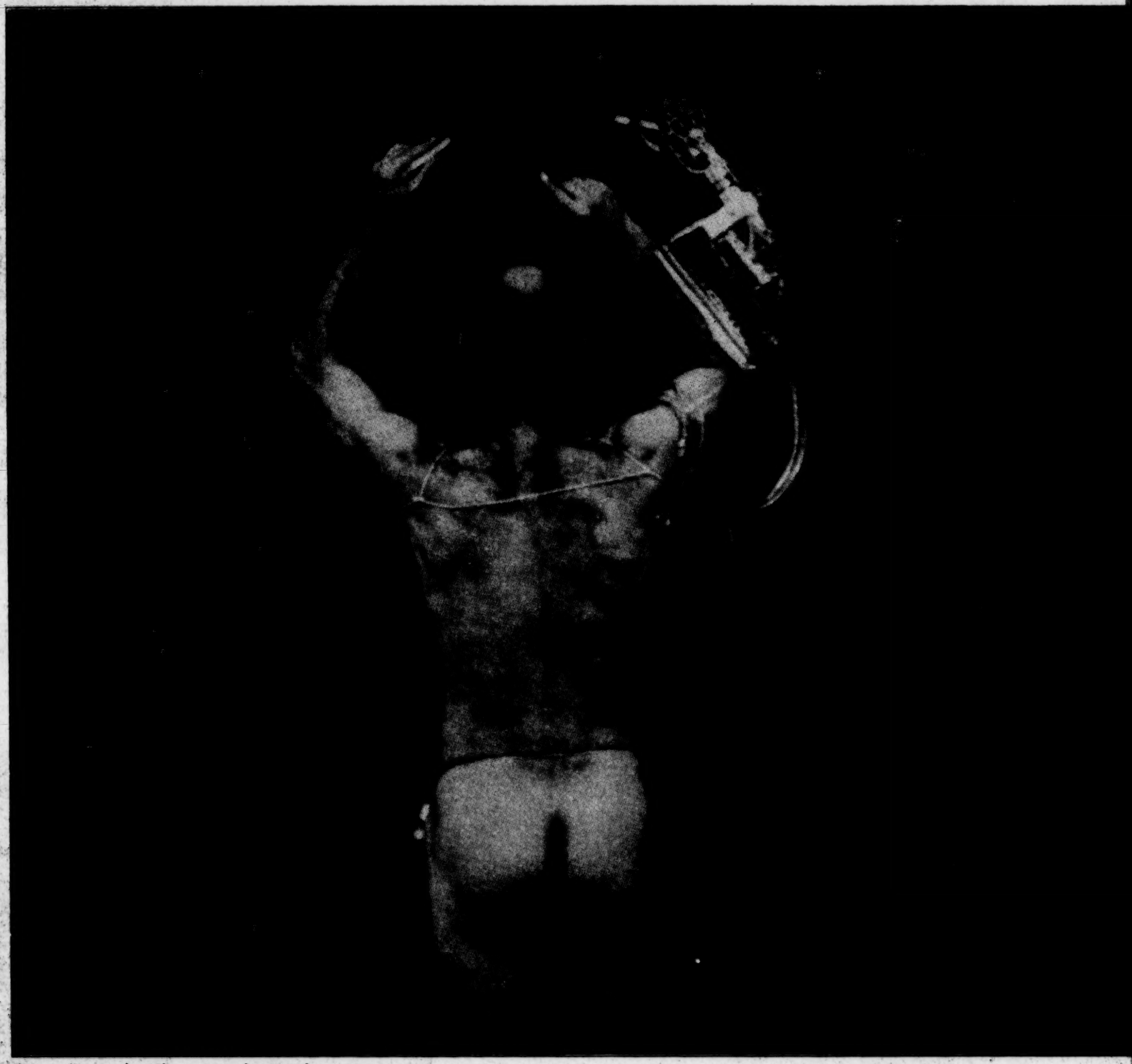
REDEFINING WHAT IS HUMAN

ANESTHETIZED BODY — THE ATROPHY OF ECSTACY. Increasingly complex organization necessitates *automation.* Automation implies ease of operation, speed of decision-making, and the illusion of control. Automation promises operational reliability and predictability. But it pacifies the body, minimizing its kinesthetic feel. Because technology so successfully mediates between the body and the world, it disconnects the body from many of its functions. Distraught and disconnected, the body can only resort to interface and symbiosis. The body may not yet surrender its *autonomy,* but certainly its *mobility.* Plugged into a machine network, the body needs to be pacified. In fact, to function in the future and to truly achieve a HYBRID SYMBIOSIS, the body will need to become increasingly anesthetized. . . .

THE INVASION OF TECHNOLOGY. Technology not only orbits the body but has now landed — attaching and implanting itself in human tissue. Once only a *container* of the body, technology can now become a *component.* EVOLUTION ENDS WHEN TECHNOLOGY INVADES THE BODY, SPLITTING THE SPECIES. Imploding, implanted technology focuses physical change on each individual, propelling the body into *post-evolutionary* trajectories. Technology, having defined human nature, provides the potential for redesign.

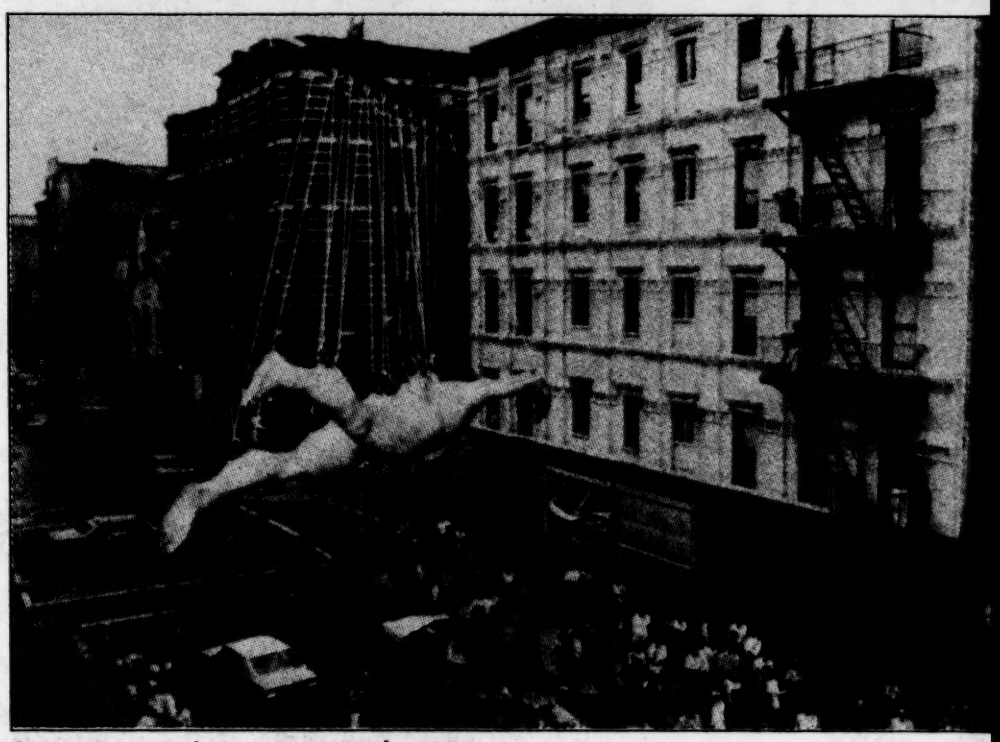
OBSOLETE BODY. It might be the height of technological folly to consider the body obsolete, yet it might be the highest of human realizations. It is no longer of any advantage to either remain "human" or to evolve the species. The body must burst from its biological, cultural, and planetary containment. It is time to *desynchronize, diversify, and depart.* Obsolete but aware, the body can plot its own demise — its own vanishing. ►

Tilted/Twisting Event for Cone Configuration — *Tokyo 1980*



Curves/Event for Three Hands — *Tokyo, 1981*

REDESIGNING THE BODY. *It is time to question whether a bipedal, breathing, beating body with binocular vision and a 1400cc brain is now an adequate biological form. The human species has created a technological and information environment it can no longer cope with. On the one hand, it is intimidated by the speed, precision, and power of technology, and on the other, it is overwhelmed by the vast quantity and complexity of accumulated information. The body is neither a very efficient nor a very durable structure. It malfunctions often and fatigues quickly, its performance determined by its age and sex. It is susceptible to disease and is doomed to a certain and early death. It is deactivated daily to dream (or become deranged) — a disproportionately high amount of its short life span being consumed in sleep. Its survival parameters are very slim. It can survive only weeks without food, days without water, and minutes without oxygen. The body's lack of modular design and its overreacting immunological system* make it difficult to exchange malfunctioning organs with healthy ones — even if it is a matter of the system's very survival. The body reproduces, but has no replaceable parts. REDEFINING THE BODY MEANS REDEFINING OUR ROLE.



Street Suspension — *New York, 1984*

NO BIRTH, NO DEATH — THE HUM OF THE HYBRID. As the body attains planetary escape velocity, it bursts from its genetic confinement. Death no longer "authenticates" existence. Death is an outmoded strategy of an evolving species. It is of no advantage to be aware of the individual! Neither birth nor death should be design criteria in the *Post-Evolutionary body.* Technology transforms the nature of human existence, standardizing sexuality and equalizing the physical potential of the body. With fertilization occurring outside the body and the possibility of nurturing the fetus in an artificial support system there will technically be no birth. And if the body can be redesigned in a modular fashion to facilitate the replacement of malfunctioning parts, then technically there will be no reason for death — given the accessibility of replacement parts. The body will no longer be *repaired,* but simply have parts *replaced.* Extending life no longer means "existing," but rather being operational. Bodies need not age/deteriorate; they would not run down or even fatigue; they would simply *stall,* then *start* — possessing the potential both for renewal and reactivation. Human traits like aggression may only be necessary because the body has to be constantly in "survival mode." The modified body will be sensitive, asexual, and immortal.

THE HOLLOW BODY. The solution to modifying the body is not to be found in its internal structure, but lies simply on its surface. THE SOLUTION IS NO MORE THAN SKIN DEEP. The significant event in human evolutionary history seems to have been a change in the mode of locomotion. Future development will occur with a shedding of skin, a change of covering. If we could engineer a SYNTHETIC SKIN with simply two capabilities (a means of efficiently converting light into chemical nutrients, and a mechanism for breathing directly through its pores), we could radically redesign the body, eliminating many of its malfunctioning organs and systems, minimizing toxin build-up in its chemistry. On the earth, the body's metabolism ebbs and flows with night and day, its brainwaves rhyme with the electromagnetic pulse and its psyche oscillates with the seasonal shifts. Our circadian rhythms reflect the rhythms of this planet. Extraterrestrial environments amplify the body's obsolescence, intensifying the pressures for its modification. Off the earth, the body's *complexity, softness, and wetness* would be hard to sustain. The strategy should be to HOLLOW, HARDEN, and DEHYDRATE the body — to make it more durable and to extend and optimize its performance. But the hollow body would not be empty. Hollowing the body allows it to become a better host for technology — not only creating space for packing in more components, but also permitting a total restructuring. THE HOLLOW BODY NEED NOT HAVE A HUMAN FORM.

►

Event for Anti-Copernicus Robot — *Tokyo, 1985*

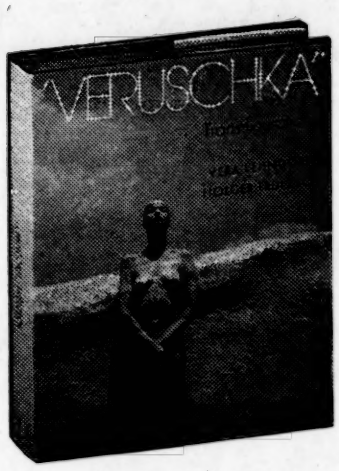
DETACHED BREATH, SPINNING RETINA. The issue is whether redesigning the body and plugging it into telechiric systems means redefining our roles — whether a body enhanced by hardware can generate an expanded awareness. There is neither interest in yogic fine-tuning of the body (for "spiritual" pursuits) nor body-building for "superhuman" performance. Restructuring the body results in redefining WHAT IS HUMAN. It is not a matter of perfecting this body for it is now obsolete. What must be questioned is the evolutionary strategy of prolonging the body with its present form and functions. . . . What is important is no longer seeing the body as a SITE for the *psyche* or the *social,* but as a STRUCTURE which is inadequately designed for both its technological and extraterrestrial terrains. The assumption made is that modifying the architecture of the body will result in altering and, hopefully, enhancing its awareness of the world. IN FACT, THE FIRST SIGNS OF AN ALIEN INTELLIGENCE MAY WELL COME FROM THIS SOLAR SYSTEM. ■

Event for Amplified Body/Laser Eyes and Third Hand — *Toronto, 1987*

Veruschka

Ever wanted to see a slide show from a shaman's flight? This is as close as you're likely to get. Through makeup and hours of body-painting Veruschka transforms herself, merging into whatever environment captures her imagination. This is not the disembodiment the post-moderns talk about (see ***Body Invaders*** *review, p. 33), but a spiritual journey, an embedding of the human in what is not human, and transforming both into* something else.

—Richard Kadrey



Veruschka (Trans-figurations)
Vera Lahndorff and Holger Trulzch
1986; 160 pp.

$35 postpaid from:
Little, Brown and Co., 200 West Street, Waltham, MA 02254; 800/343-9204 (or Whole Earth Access).

Modern Primitives

I got my second tattoo six months ago. It took two visits with the artist to settle on a design, and the needling took another seven hours, spread over two sittings. At times, the pain, especially on the tender skin near the inside of my elbow, had me squinting and grinding my teeth. It took two weeks for the arm to heal and the dead skin to flake off. It took another couple of months for the black pigment to settle into my skin and become a part of it. Why would anybody go to all this trouble for something seemingly as trivial and, to many, perverse as a tattoo? That's what the editors of ***Modern Primitives*** *wanted to find out.*

Through amazing photographs and interviews with two dozen people who practice "primitive" body modification, we learn about the spiritual changes that can come through extreme pain as Fakir Musafar describes hanging by hooks in his chest in the Indian Sun Dance. Legendary tattooist Ed Hardy talks about his crusade to raise the artistic standards of tattooing, while Hardy's cohort, Bill Salmon (who did my second tattoo), tells us about having his body marked by 48 different artists. Raelyn Gallina and Sheree Rose talk about body piercing and scarification. From tattoo artist Leo Zulueta, who is largely responsible for the current interest in tribal tattoos, to industrial/psychedelic musician Genesis P-Orridge, the interviews are fascinating.

Modern Primitives *is not some shock rag parading crazies for your amusement. All of the people interviewed are looking for something very simple: a way of fighting back at a mass-production consumer culture that prizes standardization above all else. Through "primitive" modifications, they are taking possession of the only thing that any of us will ever really own: our bodies.*

—Richard Kadrey

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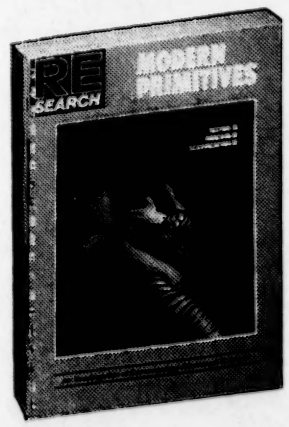
Fakir Musafar: Another penetration ritual is *kavandi-bearing* which is not done by sadhu professional holy men — ordinary people in India do this, usually in February during a festival — trial by the spears of Siva. . .

A framework is placed around your body and locked on; sharp rods with points are stuck into the skin, then you rise and dance and walk and move. The more you move, with the rattling and vibrating of the spears, the deeper they go into your skin, and the longer you do it the deeper they go into your skin. So, you don't feel pain as you once knew it — you can get into a great state of ecstasy and you can flip off, which I've done a couple of times, into a totally altered state — in two cases I had a real out-of-body experience. I just totally left my body, lifted out of it, floated up above and watched this body like a robot running around, going crazy, with these spears jangling and clanging in the framework.



Modern Primitives
Andrea Juno and V. Hale, Editors
1989; 212 pp.

$14.99 ($17 postpaid) from:
RE/Search Publications, 20 Romolo, #B, San Francisco, CA 94133; 415/362-1465
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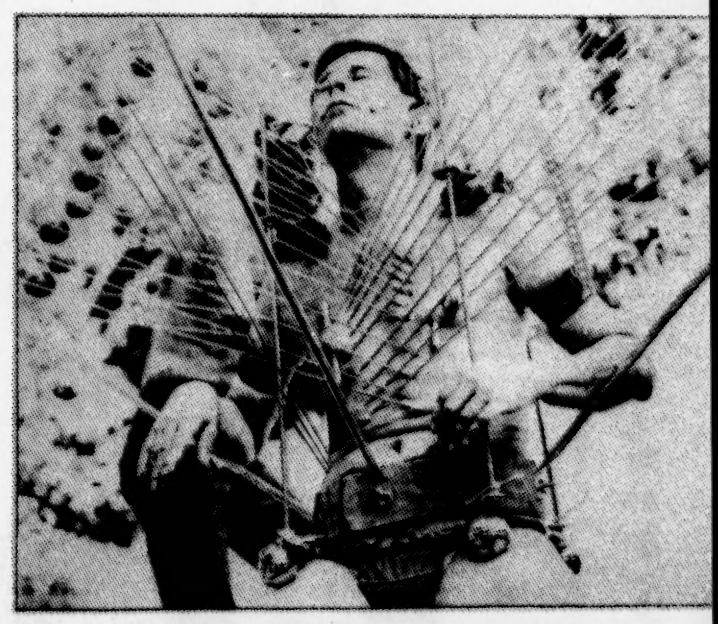


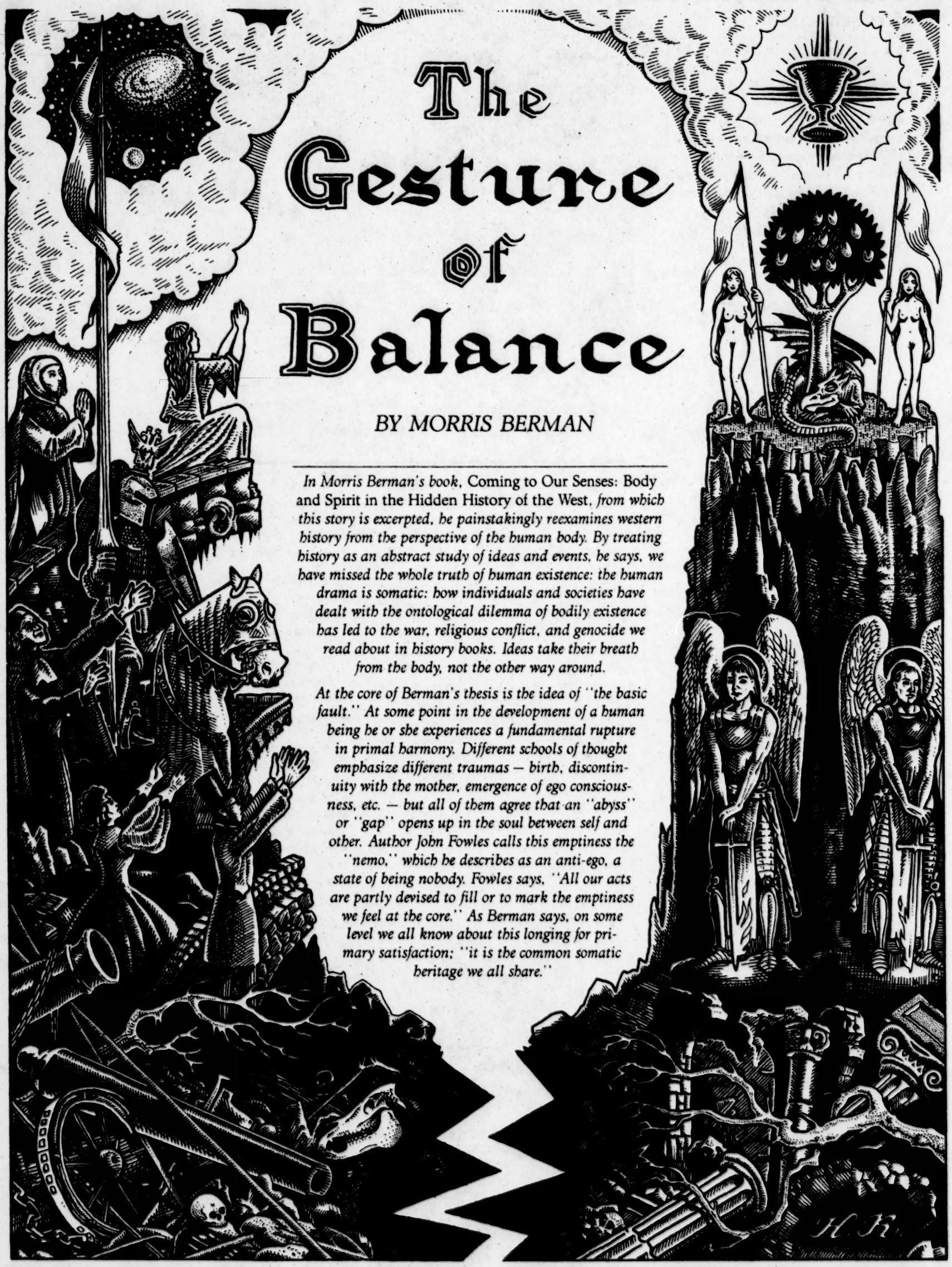
Fakir Musafar bears the "Spears of Siva."

The Gesture of Balance

BY MORRIS BERMAN

In Morris Berman's book, Coming to Our Senses: Body and Spirit in the Hidden History of the West, *from which this story is excerpted, he painstakingly reexamines western history from the perspective of the human body. By treating history as an abstract study of ideas and events, he says, we have missed the whole truth of human existence: the human drama is somatic: how individuals and societies have dealt with the ontological dilemma of bodily existence has led to the war, religious conflict, and genocide we read about in history books. Ideas take their breath from the body, not the other way around.*

At the core of Berman's thesis is the idea of "the basic fault." At some point in the development of a human being he or she experiences a fundamental rupture in primal harmony. Different schools of thought emphasize different traumas — birth, discontinuity with the mother, emergence of ego consciousness, etc. — but all of them agree that an "abyss" or "gap" opens up in the soul between self and other. Author John Fowles calls this emptiness the "nemo," which he describes as an anti-ego, a state of being nobody. Fowles says, "All our acts are partly devised to fill or to mark the emptiness we feel at the core." As Berman says, on some level we all know about this longing for primary satisfaction; "it is the common somatic heritage we all share."



Illustrations by Hal Robins

Drawing largely on the work of a group of French scholars and the British "object-relations school," Berman shows how much of culture is a product of how individuals and groups deal with the nemo. The key concept here is that of "transitional objects" (TO) – "objects that are not part of the infant's body yet are not fully recognized as belonging to external reality" – which are used to assuage the emptiness. In our longing for the return to primary unity, culture itself becomes a transitional object.

For Berman, the major somatic drama of the last 2,000 years can be seen in the cycles of heresy vs. orthodoxy that characterize much of western history. At certain times in history – as with the Gnostics during the time of Christ, the Cathars in the 12th century, or the occult sciences of the Renaissance, for example – a peaking of somatic energy has occurred. These ecstatic traditions, based on what Berman calls "the ascent structure," take their power from the deep human need and ability to experience truth directly through the body. After a century or so this somatic energy is typically co-opted by an orthodoxy that seeks to replace direct experience with symbolic experience of truth. Thus Jewish Gnosticism led to Christianity as a world religion, and the magical experimentation of the Renaissance finally resulted in a rigid scientific world view. But underlying these cycles is the deepest truth, what Berman calls the "ultimate heresy": to acknowledge that the only truth is the human need for truth, which is rooted in our somatic structure.

The "gesture of balance" Berman is calling for in this essay is to abandon the pursuit of ecstatic ascent, and the ideologies this generates, and instead to live directly with our bodily reality. Followers of Buddhism will find familiar territory covered here, as will poets, who have put bodily experience into language over millenia. But Berman is trying to speak about a "paradigm beyond paradigm" in language historians and other scholars, as well as the general public, can understand. His work is a bridge – to a culture that integrates thinking and feeling, mind and body, rather than one that seeks, at terrible human cost, to keep them apart.

Coming To Our Senses: Body and Spirit in the Hidden History of the West *was published in May of 1989 by Simon & Schuster. Morris Berman is also author of* The Reenchantment of the World *(Bantam Books, 1984). –Jeanne Carstensen*

HE LINCHPIN of the Western reality system is the split between "heaven" and "earth," a split that is nothing more than a projection of the basic fault, and that can only be bridged by an ascent structure, an ecstatic journey capable of traversing transitional space. The religion or philosophy or social system that then gets organized around that vertical journey (or journeyer) then acts as a Transitional Object that holds the culture together for the next few hundred years. There is another alternative to recycling the ascent structure one more time, and that is to finally abandon it once and for all. This means, at least initially on the individual level, learning to live with the Abyss; recognizing the gap for what it is. Far more important than finding a new paradigm (TO) is coming face to face with the immense yearning that underlies the need for paradigm itself. This means exploring what we fear most, viz., the empty space or silence that exists *between* concepts and paradigms, never *in* them. We are indeed in a system-break, and the temptation to stuff the gap is very strong; but the "road less traveled," which is that of looking at the nature of paradigm itself, is the truly exciting and liberatory path here. There can be no healing of our culture and ourselves without taking this option, and it will not go away, whether we miss it on this "round" or not. Nothing less is at stake than the chance to be finally, fully human, and since that is our destiny, the latest heresy or paradigm-shift is simply not going to cut it.

What does the end of the ascent dynamic really involve? At first glance, it would seem to imply that everything that is meaningful to us would be lost; and indeed, a very good case contrary to what I am advocating can be made. Thus the Jungian analyst H. G. Baynes said that the argument against ascent experience is analogous to the attempt to put out the sun because it gives some people distorted vision. Ecstatic energy, he said, is our "real gold"; we need to learn how to navigate the territory, not to declare that it shouldn't exist.

Certainly, the cognitive insight of ascent experience is earth-shattering; people who have it emerge wondering where they have been all their lives. Purely intellectual or analytical knowing is revealed as being hopelessly incomplete. Life takes on a vivid quality, for one becomes concerned with things that really matter; it is no longer a question of filling up seventy-odd years with "interesting projects" (more often, not so interesting). The event is so numinous, so meaningful, that one's relationship to the world, and to oneself, will never be the same, and thus to talk of abandoning this kind of experience would seem to be, as Baynes said, a great mistake.

The problem is that the very strength of the ascent tradition, viz.,

From *Coming To Our Senses* by Morris Berman. Copyright © 1989 by Morris Berman. Reprinted by permission of Simon & Schuster.

the granting of revealed (i.e., certain) knowledge, is also its weakness. The Spanish poet, Antonio Machado, once wrote:

> *In my solitude*
> *I have seen things very clearly*
> *that were not true.*

The "clarity" of archetypal energy is just a bit too wonderful. It is simply too easy to get a "message from God" and be off and running with it. For example, on July 7, 1986, Juan Gonzales, a Cuban refugee who happened to be living in New York and, at the time, riding the Staten Island ferry, killed two people and wounded nine others with a sword in an attack he said was ordered by God. Gonzales said that he was specifically ordered to take control of the ferry in the name of the Father, the Son, and the Holy Ghost. This sort of "amazing grace" gives one moment to pause; and if it occurs as a mass phenomenon, we are in very deep trouble.

I know one man who had an ascent experience in a technological context, and now believes that only technology can save us. In California, I met another man who came down off his ecstacy with the belief that he had been contacted by UFOs, and that his job was now to prepare the planet for its salvation via extraterrestrial visitors. My own experience came through a particular type of body meditation; hence, this book. So I am in the position of arguing that the energy of the universe originates in the body, and is generated as a field between bodies, but how can I be sure this is right? It may be much more complicated than this. In certain Oriental traditions, for example, the world is seen as pervaded by a life force — *ch'i*, *ki*, *prana*, etc. — and the body is regarded as merely a talented receptacle or "accumulator" for such energy. My approach of the nemo or gap, of Winnicott and Lacan, may be much too narrow, although I admit I have said more than just this. But my point here is that if I decide that ascent experience is the last word, then I can create a religion out of the body and be done with all other alternatives. I may be a lot more harmless than Juan Gonzales, but — if I am going to base everything on revelation — not a whole lot less rigid. Ascent experience is perhaps not as enlightened as it would at first seem.

This issue is the subject of two very important books on heresy, Umberto Eco's *The Name of the Rose* and Jacob Needleman's *Lost Christianity*. Both authors recognize the "problem" of the Self/Other dynamic, and how it has gotten translated over the centuries into the social arena as the bitter and recurrent struggle of heresy vs. orthodoxy. They suggest that ecstatic dissolution of the Self may not be the best way out of this (binary) game. For Eco, only humor can cut through the blind assurance of revealed experience; it throws us back on ourselves, gives us some psychic distance from the things we are so certain of. (Can you imagine someone like Jerry Falwell poking fun at his own religion? How refreshing — and spiritual — this would be.) I have called this talent "reflexivity," and shall say more about it below (it is not the same thing as cultural relativism); but it is important to note that for Eco this reflexivity, this ability to see ourselves *in* a state of need and commitment, to actually observe it, is the ultimate heresy, much more heretical than any new revelation, any new paradigm. Eco's fictional spokesman, William of Baskerville, tells his assistant, Adso, that the devil is essentially "faith without smile," and adds:

> Fear prophets, Adso, and those prepared to die for the truth, for as a rule they make many others die with them. . . . Perhaps the mission of those who love mankind is to make people laugh at the truth . . . because the only truth lies in learning to free ourselves from the insane passion for the truth.

For Jacob Needleman, the real Christianity that got lost and buried somewhere in the first century A.D. was not that of Gnostic ascent, but this same type of reflexive ability — what he calls, following Gurdjieff, "self-remembering." It is, he says, the experience of yourself, *not* the experience of God. Needleman may be correct, historically speaking (I personally tend to doubt it), but he does quote Meister Eckhart in his defense to good effect:

> Aware of it or not, people have wanted to have the "great" experiences . . . and this is nothing but self-will. . . . There are thousands who have died and gone to heaven who never gave up their own wills.

"One longs . . . for God, or for Meaning . . . ," writes Needleman, "and does not see that the longing itself is the beginning of the answer one is seeking." Ecstasy can bind communities together, he points out but to what end? We have pursued mystical love, he says, whereas what we need is "ontological love."

This is the crucial point — that true enlightenment is to really know, really feel, your ontological dilemma, your somatic nature. The mystic seeks to go up; the ultimate heresy, to my mind, is to go across, or even down. I recall how, a few years ago, I did a two-week meditation retreat with a former Theravada Buddhist monk, and asked him, in the course of it, where ecstatic experience, or Great Mother consciousness, fit into the whole thing. "Oh," he said with a wave of his hand, "in Buddhism, that is regarded as a very *low* form of consciousness." He went on to say that ascent was regarded in his tradition as *mara* — an obstruction to enlightenment. In the same way, Needleman characterizes ecstasy as a form

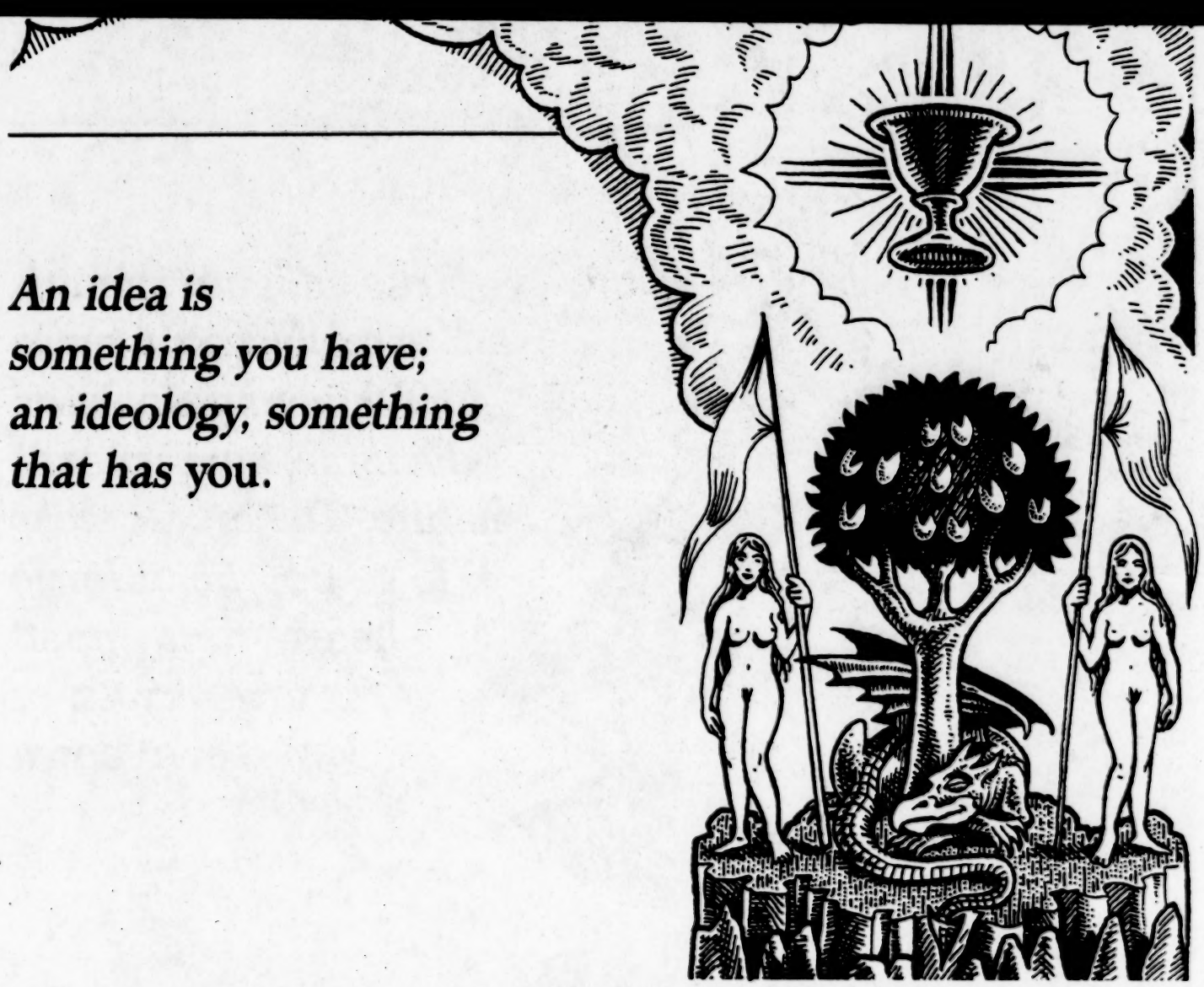
True enlightenment is to really know, really feel, your ontological dilemma, your somatic nature. The mystic seeks to go up; the ultimate heresy, to my mind, is to go across, or even down.

of bondage. The real goal of a spiritual tradition should not be ascent, but openness, vulnerability, and this does not require great experiences but, on the contrary, very ordinary ones. Charisma is *easy;* presence, self-remembering, is terribly difficult, and where the real work lies. "The highest art," goes an old Tibetan saying, "is the art of living an ordinary life in an extraordinary manner." That this could become the modality of an entire society is an inspiring possibility.

Of course, ascent experience, and what it carries with it, won't go away by fiat, so in this sense Baynes is right — we shall have to learn to navigate the territory. For at least since the binary worldview of Neolithic civilization, we are wired up in a Self/Other dynamic that pulls us toward transcendence, with all its brilliant and destructive possibilities. Yet a much deeper life lies beyond that of the ascent structure, which is finally about salvation, or redemption; for the ultimate heresy is not about redemption but, as I said earlier, about the redemption from redemption itself. It is to be able to live in life as it presents itself, not to search for a world beyond. (Politically, of course, this is very often not possible; but it could be argued that our political forms, and messes, are themselves the results of binary thinking and the ascent mentality.)

The shift away from ascent, and toward bodily presence in the world, implies certain things that go with the territory, as it were. The first of these is an end to the binary contrast mode of consciousness and personality structure. This *seems* inherent, but it is not; it is a Neolithic artifact, a translation of Tame vs. Wild into Self vs. Other and earth vs. heaven. Beneath the dualistic layer of the human psyche is a kaleidoscopic one that I suspect hunter-gatherer cultures possessed, and that is very much about finding ecstacy in details. The American anthropologist, Stanley Diamond, notes that "primitive" life is characterized by direct engagement with nature and bodily functions. The "sense of reality," he writes, "is heightened to the point where it sometimes seems to 'blaze.'" There is no ascent in this "ecstacy"; *all* of life is sacred, not just "heaven." The structure is horizontal rather than vertical, and it has a much greater "feminine" element in it than does our present consciousness. Vertical structures all have a Grail quest behind them; they are all a form of male heroics. So most of our history has been a kind of unnecessary artifact. Self/Other opposition, binary structure, Transitional Objects, heresy vs. orthodoxy, ecstatic experience vs. "ordinary" life — all of this may be adventitious, in the last analysis, and certainly not part of "human nature." That meaning for us occurs only by means of conflict, or dialectics, may

An idea is something you have; an ideology, something that has you.



only reflect a very shallow notion of meaning. This "meaning" is dependent on a mind/body split; without that dichotomous game, most of our history would simply vanish into thin air, since so much of it is about the hero's journey to heal that gap. But journeys are for the most part undertaken out of restlessness; some sort of lack, or need, is typically present. Things are "not right" here, there is something better to be found somewhere else. Vision-quests and ecstatic journeys were perhaps absent from hunter-gatherer societies, or, if present, probably received much less emphasis until the advent of the Neolithic age. Instead, life was its own purpose. Ecstasy is necessary only in a bifurcated world; the hero makes sense only in a religious (binary-mythic) context.

This is why New Age "paradigm-shift" finally won't work; no matter how radically different the content might be (and I am very skeptical on this point anyway), the form is really identical. Paradigm-shift is still part of the salvation mentality, a patriarchal mind-set that tells the hero to persevere, find a new form of consciousness that will give him redemption. The awareness that this whole structure is an illusion is the heresy Needleman and Eco are talking about, the real heresy we need to embrace.

Horizontal consciousness, as well as reflexivity, also implies a society of tools rather than worldviews. The minute anything — science, feminism, Buddhism, holism, whatever — starts to take on the characteristics of a cosmology, it should be discarded. *How* things are held in the mind is infinitely more important than *what* is in the mind, including this statement itself. For there is a big difference between ideas and ideology. An idea is something you have; an ideology, something that has *you*. All of these beliefs, techniques, and ideologies are useful; but they are not "true." What *is* true is our need to stuff the gap, our longing, our drive to create worldviews out of tools so we can be "safe." At least, that is true right now. My guess is that there is a deeper truth, one that could be part of a new culture. This deeper truth is that we really *don't* need to stuff the gap, etc., so that we can be "safe." In this new culture we would observe this need for "safety," but would refuse to give in to it. Safety would come from the body, not from this or that system.

I do not mean to imply by all this that future consciousness would consist in permanent suspended animation, or hanging out in transitional space. Given enough somatic (ontological) security, this might be possible; but a complete *via negativa* is not an answer, and it certainly isn't very complex. The whole notion of "empty space" has its limits, and some form of coding is always necessary for social and psychological life. The argument for the "paradigm of no paradigm" can only be pushed so far; in recent times, Krishnamurti was the great exponent of this, and he became, in fact, the anti-guru guru. In his book *Lying Down*, Marco Vassi pegs the prob-

lem of this argument very astutely. It is all, says Vassi, negative intelligence. In denouncing all methods and worldviews, Krishnamurti failed to come up with any positive alternative. Year after year, says Vassi, Krishnamurti would chide his aging fans for having made no breakthrough in terms of their attachments, but he categorically refused to discuss how such a breakthrough might be made. In actual fact, Krishnamurti, as a guru, was the last version of the male heroic structure. As Vassi says, "his mission, ironically, may turn out to have been something like that of a Moses for the horizontal paradigm."

Part of our goal, undoubtedly, is to learn what it means to live without paradigm, but I also sense a much more complex possibility, viz., developing a radical new code that is itself about coding, and is not merely a shift in coding. This is where reflexivity — the awareness of coding as coding, or Gurdjieff's "self-remembering" on a cultural scale — becomes so important. Christianity, Catharism (and romantic love), science, and even cybernetic holism (nature seen as information exchange) are all heuristically valuable, but they are not "true." Only our need for truth is true, and the problem arises when any one of these tools, or codes, is mapped onto our entire ontology. Reflexivity is about the breaking away from this vertical, binary pathology, for it does not (necessarily) say, "Have no codes," but only requires a deliberate awareness of constructing and using a code, and the having of that awareness as part of your code.

Writers such as Gregory Bateson and Henri Atlan are in the vanguard of this, but my favorite remains the late great teller of tales, Jorge Luis Borges. In one short story, "Tlön, Uqbar, Orbis Tertius," he describes a country that chooses a different reality every day (no repeats allowed). One day they are mystics, another, mechanists, another, something else. No one in this country is allowed to publish a book unless they also include in it its counterbook, which is the argument based on opposing premises. Such a life would undoubtedly be a bit too hectic for most of us, but I believe it is a valuable model to contemplate.

Commenting on self-awareness, Lawrence Durrell writes:

> Civilizations die in the measure that they become conscious of themselves. They realize, they lose heart, the propulsion of the unconscious motive is no longer there. Desperately they begin to copy themselves in the mirror. It is no use.

"Truth disappears with the telling of it," he adds; "It can only be conveyed, not stated." "Losing heart" is certainly a possibility, but I am not sure it is inevitable, especially if — for the first time in history — we would develop (or grow into) a culture that would accept the fact that the truth can only be conveyed (not stated), and that unconscious process must be allowed to remain unconscious. For reflexivity does not mean making everything conscious; it should include the notion that the code, of which you are aware, is fed by sources that lend themselves only to indirect awareness. This too facilitates the habit of not mistaking tools for worldviews, for one's worldview, in effect, becomes Mystery: there is some sort of larger process operating that we cannot directly apprehend, but that permeates our bodies and moves toward healing. Einstein's question remains the crucial one: "Is the universe friendly?" (What do *you* think?)

This whole subject of coding, and the coding of coding, is addressed from another angle (that of the history of music) by Jacques Attali in his book *Noise*. By "noise" Attali means what I have called silence, i.e., the space between codes. Attali calls for a new form of self-conscious coding which he refers to as "composition," and which could be truly liberatory. Both the history of Western music and that of Western political formations have been characterized by epochs, system-breaks and paradigm-shifts, he says, of new codes violently rupturing and replacing old ones (no surprise there). Attali believes that the next code, "composition," might just be decentralized, independent, and, in effect, radically democratic. Composition, he says,

> proposes a radical social model, one in which the body is treated as capable not only of production and consumption, but also of autonomous pleasure. This network differs from all those preceding it. . . .

What may be arising now, he says, is not a new music (read: paradigm), but a new way of *making* music (read: reflexivity). Composition means that

> we create our own relation with the world and try to tie other people into the meaning we thus create. . . . Doing solely for the sake of doing, without trying artificially to recreate the old codes in order to reinsert communication into them. Inventing new codes, inventing the message at the same time as the language. Playing for one's own pleasure, which alone can create the conditions for new communication. A concept such as this seems natural in the context of music. But it reaches far beyond that; it relates to the emergence of the free act, self-transcendence, pleasure in being instead of having. . . . [I]t is at the same time the inevitable result of the pulverization of the networks, without which it cannot come to pass, and a herald of a new form of socialization,

for which self-management is only a very partial designation.

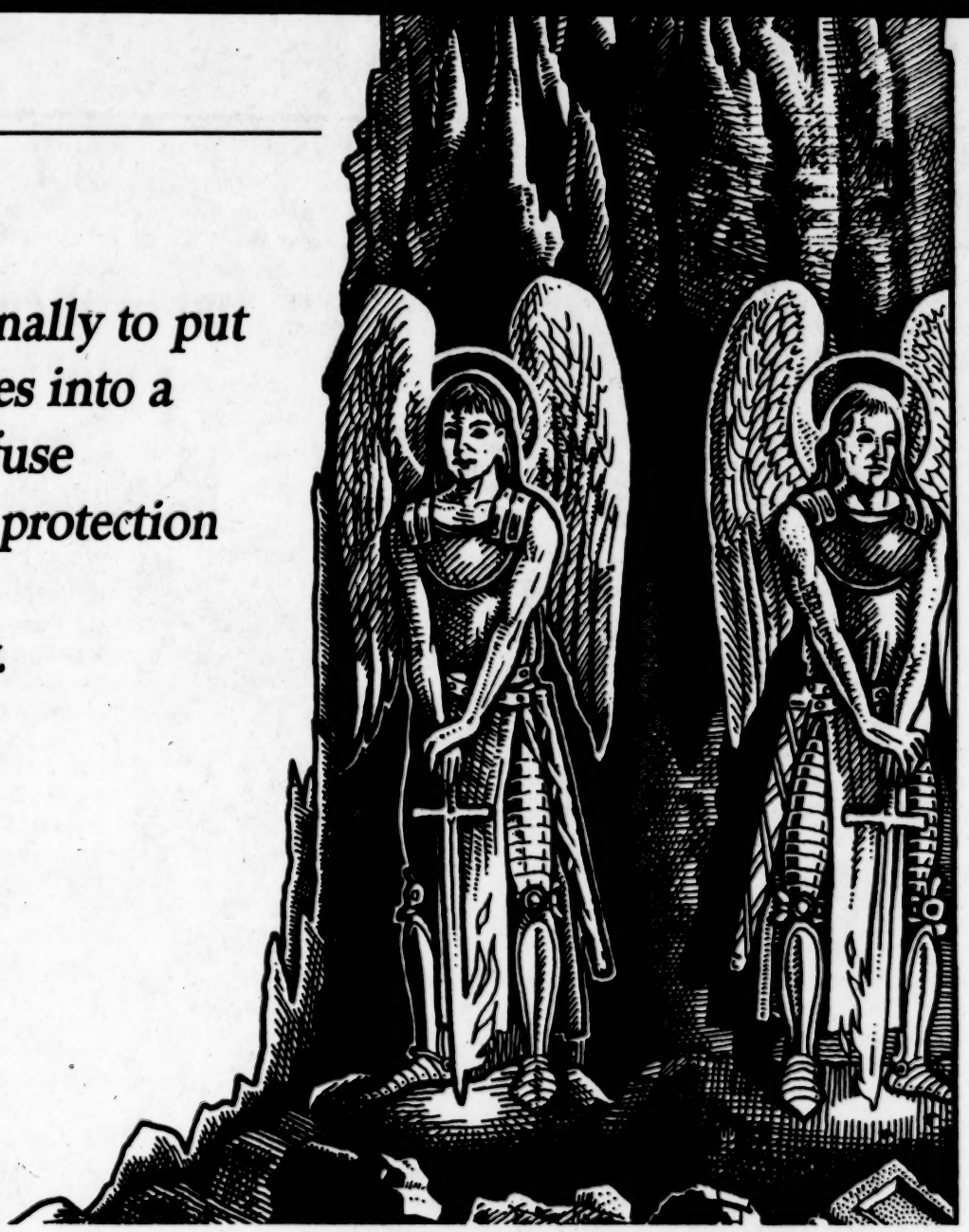
Attali's approach is very similar to Vassi's critique of Krishnamurti. "Announcing the void," he says, ". . . is blasphemy. But blasphemy is not a plan, any more than noise is a code." Composition is really about the trust in direct experience, about taking pleasure in the body, and about creating an exchange between bodies. It "is inscribed not in a repetitive world, but in the permanent fragility of meaning. . . . It is also the only utopia that is not a mask for pessimism." Our ultimate goal, he concludes, is to transform "the world into an art form and life into a shifting pleasure." This is the ultimate heresy, then, and a possible outcome of a history of ascent, of system-breaks and paradigm-shifts that are exciting on one level, tedious on another: life characterized by so much somatic security, so much incarnation, that the need for "truth" is far less important than the need for love; and finally, not really in conflict with it. Incarnation means living *in* life, not transcending it. The last paradigm-shift has to be a shift to a world in which paradigm-shifts become unnecessary, if not actually banal.

Reflexivity, then, or perhaps what amounts to Jacob Needleman's notion of "ontological love," opens the door to composition, or what Dorothy Dinnerstein, in her brilliant essay, "The Mermaid and the Minotaur," refers to as "enterprise." I think this is similar to what I referred to, early on, as the "cosmological urge," which should be understood as not having any edge of desperation attached to it. In terms of how we have lived on the planet, at least ninety-five percent of our experience has not been about gap-stuffing and the search for Transitional Objects, and this raises the question of what future alternatives might consist of. The idea here is not to return to some "primitive," hunter-gatherer state, but rather to explore the possibilities of a life grounded in somatic integrity. In his book *Life Against Death*, Norman Brown raised just this question; but, as Dorothy Dinnerstein notes, Brown fell into the error of regarding all enterprise — the attempt to comprehend the world, or even involve oneself in it — as the attempt of the infant to console itself for the loss of the Primary Unity, or kinesthetic wholeness. All of culture is thus seen as a form of substitute satisfaction. What Dinnerstein argues is that we have to distinguish between enterprise and driven behavior. Enterprise, says Dinnerstein, is actually a healthy thing, a primary satisfaction rather than a secondary one. The problem, she says, lies not in enterprise per se but in the situation in which the kinesthetic is renounced to the point that the visual is needed to fulfill compensatory functions. Brown, Róheim, Balint, Merleau-Ponty, Wallon, and Lacan were guilty of what might be called "universalization" — they zeroed in so completely on this one tendency that they mistakenly turned it into the whole of the human condition, and thereby skewed the meaning of human effort. All of these writers, Dinnerstein essentially says, were correct insofar as they recognized that we ruin enterprise by trying to get it to replace a Primary Unity we originally lost, but incorrect insofar as they argued that this is embedded in the structure of the human psyche (or body) itself and that one cannot relate to the world, and to our loss, in a different way. There is a way of going about enterprise, particularly as it applies to creativity, in which the activity is *preceded* by wholeness, rather than being a frantic attempt to achieve it. This frantic approach to life, says Dinnerstein, is not inevitable; we really don't have to spend our lives chasing ecstasy in an effort to shut down the nemo. It is in fact possible to embrace enterprise, the cosmological urge, Attali's "composition," and the like in terms of a living out of the ebb and flow of union and separation.

How shall we characterize this? A similar approach to the notion of enterprise is present in certain schools of Buddhism. The Pali word *jīvitindriya*, which is sometimes translated as "vitality" or "life principle," is used to stand for the energy that remains in the human being after enlightenment occurs, i.e., after fear, hatred, and delusion are eliminated from the human soul. It is said to arise at the moment of conception and depart at the moment of death. It is a *positive* force, according to the Pali texts. In a similar vein, American Indians often spoke of a "gesture of balance." To clutch at Transitional Objects, regardless of what form they may take, is to lose balance, whereas real liberation is about resiliency, not about "truth." The gesture of balance *should* be a given; my own experience is that unless one works at it, it only emerges at the oddest moments: a joke someone cracks in a railway compartment, at which everyone smiles simultaneously; a simple look of understanding between yourself and a stranger who stops you and asks for the time; the moment you catch yourself, as it were, staring absentmindedly out of the window on a gray Sunday morning, having momentarily forgotten about your coffee and the crossword puzzle you were working on. At such moments, life is neither *this* nor *that;* it just *is*. This is body time, not ego time; the interaction of your Being with reality. What will you remember at the moment of your death? Will it be the moment on the train, or when you interacted with a stranger, or when you looked out of the window on that dull, gray Sunday long ago? What does it mean to be alive right — *now?*

There is only one hope for our situation, and that is that the gesture of balance once again become a way of life; that Self and Other be seen as interrelat-

We are asked finally to put our entire bodies into a situation; to refuse numbness and protection in favor of risk and immediacy.



ed aspects of something larger, rather than as opponents. It is a long shot, because this is a still small voice that seems "romantic," or even weak, whereas what is paraded as strength is really a wall of tension, built on a Self/Other opposition. This latter, however, is not a gesture of balance, but rather one of desperation; but it is generally hard to see that. And it is difficult to imagine an entire culture moving in this direction; you can't find the State of Grace anywhere on a map of the known world. But just possibly there is an evolutionary trend here, literally in terms of our own survival, with more and more of us opting for exploration, "enterprise," and some form of reflexivity, rather than for the safety of rote or revealed knowledge and familiar formulas.

A unique opportunity is thus available to us now, perhaps for the first time in our history, and that is to intervene in our own evolution in a creative, and reflexive, way. To come back to John Fowles, he may have put this possibility most clearly when he wrote:

> The nemo is an evolutionary force, as necessary as the ego. The ego is certainty, what I am; the nemo is potentiality, what I am not. But instead of utilizing the nemo as we would utilize any other force, we allow ourselves to be terrified by it, as primitive man was terrified by lightning. We run screaming from this mysterious shape in the middle of our town, even though the real terror is not in itself, but in our terror at it.

The ability to utilize the basic fault creatively is as much an evolutionary option as our history of using it destructively. We are not condemned to the nemo and a whole array of substitute satisfactions. No matter how likely a scenario this is, it is simply not inevitable. It is not so much a matter of mastering the terror Fowles speaks of as being able, for starters, to observe it in a neutral fashion. This one tiny (non)-heroic act then opens the door to the world of enterprise, *jīvitindriya*, the going out to the world in a spirit of aliveness and curiosity rather than one of need and desperation. And this act is heroic, not in the ascent or vision-quest sense of the word, but in the sense of something at once necessary and private and extremely difficult, because it requires doing the one thing that we seek to avoid at all costs: we are asked finally to put our entire bodies into a situation; to refuse numbness and protection in favor of risk and immediacy. That is the ultimate meaning of human life on this planet, the hidden history which, down through the ages, the human race has struggled with, and the destiny and choice which now, after all these millenia, stares us uncompromisingly in the face. ■

The Body's Recollection of Being • The Opening of Vision

David Levin is the contemporary spokesperson for the tradition going from Nietzche to Husserl to Heidegger to Merleau-Ponty — a relay race into the depths of sensory flesh as a source of meaning. There is a Talmudic flavor to his works, dense concatenations of texts from philosophers and mystics, with commentaries on these texts, always pointing to a resolution of what he considers major problems of our generation: nihilism, relativism, and narcissistic disorders — problems which he considers anchor a diseased social order.
—Don Hanlon Johnson

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Retrieving that center of gravity, finding our centeredness in that true center of meaning around which our life can pivot in a relaxed, well-balanced way, is crucial not only for our health; it is critical for our emotional well-being, and therefore also for our steadiness of principle as moral agents. . . . We are easily tempted to exalt ourselves in this posture [as lords of the earth]. But it is a posture of pride and insolence, a posture which makes manifest, and in fact reinforces, our forgetfulness of the earth. In that posture — a posture prized by our patriarchy — we are not, however, well-balanced. Sooner or later, we shall stumble or fall.

If this fall be avoidable, what kind of comportment would avert it? What kind of posture, what kind of bearing, what kind of motility, is well-balanced? . . . We are moving closer to being well-balanced when our standing is thoughtfully centered on the *grounding* provided by the earth.

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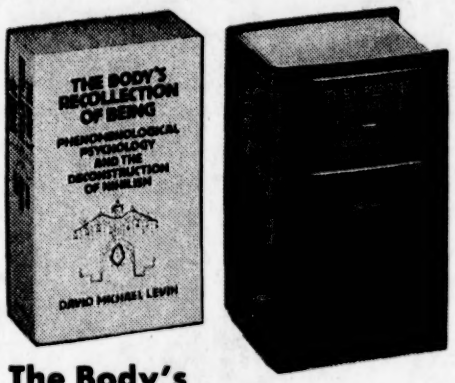
'Overcoming' metaphysics means overcoming the metaphysical misunderstanding of the being of the human body. It means overcoming our historically deep-seated guilt and shame, flaming into a terrible *hatred* of the body. The history of mind/dualism and the history of the subject/object dualism are two symptomatic manifestations of a violent, nihilistic rage in the very heart of our metaphysics. But to overcome metaphysics, we must do more than formulate a conceptual critique. We must *retrieve* the ontological body. We must actually *let go* of our dualistic, propositional way of 'thinking.'

•

I would like to highlight the human body as a locus for the investment of political power and a source of resistance to the politics whose will to power is the annihilation of Being. In particular, I would like to call attention to the fact that, relative to the existing political reality, the human body, as a natural or 'wild' being, as flesh, is always already the metaphor, the bearer, of a utopian political destination. Thinkers like Foucault concentrate on the ways in which a political regime externally appropriates the human body, imposing its demands on an essentially passive material; and they will explore strategies of resistance suggested by the body's experience of political institutionalization. But they neglect to acknowledge the body's own intrinsic political wisdom, its own uncommonly good *sense* of good political order, the *sensus communis.*
—The Body's Recollection of Being



The Body's Recollection of Being
David Michael Levin, 1985; 390 pp.
$14.95 ($16.95 postpaid).

The Opening of Vision
David Michael Levin, 1988; 560 pp.
$19.95 ($21.95 postpaid).

Both from:
Routledge, Chapman & Hall, 29 West 35th Street, New York, NY 10001; 212/244-3336
(or Whole Earth Access).

The Body in the Mind

There are books — few and far between — which carefully, delightfully, and genuinely turn your head inside out. This is one of them. It ranges over some central issues in western philosophy, and begins the long overdue job of giving us a radically new account of meaning, rationality, and objectivity. Although written for an academic audience, the book is mostly clear and readable.

The book's central claim is that meaning, thinking and language are necessarily embodied. These are not simply abstract manipulations of symbols which arbitrarily correspond to things in the world, but are deeply and inextricably rooted in a background of image schemata which emerge from our bodily functioning and experience as embodied beings in the physical world. These image schemata (such as containers, paths, center-periphery, up-down*) are what constitute our experience and reasoning — they are what we think with. And it is only our common embodied understanding of these schemata that allows people to build a relatively intelligible world of shared meaning through mapping abstract symbols onto objective reality.* *—Yaakov Garb*

•

We human beings have bodies. We are "*rational* animals," but we are also "rational *animals,*" which means that our rationality is embodied. The centrality of human embodiment directly influences what and how things can be meaningful for us, the ways in which these meanings can be developed and articulated, the ways we are able to comprehend and reason about our experience, and the actions we take. Our reality is shaped by the patterns of our bodily movement, the contours of our spatial and temporal orientation, and the forms of our interaction with objects. It is never merely a matter of abstract conceptualizations and propositional judgments.

•

When we speak of "experience," we do not mean merely a flow of mental representations. We mean to include bodily experience in all of its richness, and all that goes to make it up — the organism and its nature, the environment and its nature, and our understanding (our way of grasping) their ongoing interaction.

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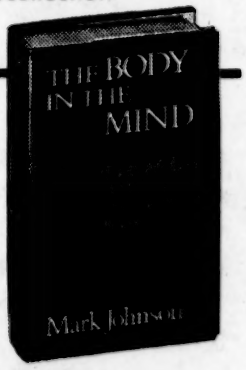
It is no accident that we understand QUANTITY in terms of the VERTICALITY schema . . . in exactly the way we do. Examples such as *Prices keep going up;*



The Body in the Mind
Mark Johnson
1987; 233 pp.
$27.50
($29.25 postpaid) from:
University of Chicago Press, 11030 South Langley Avenue, Chicago, IL 60628; 800/621-2736
(or Whole Earth Access).

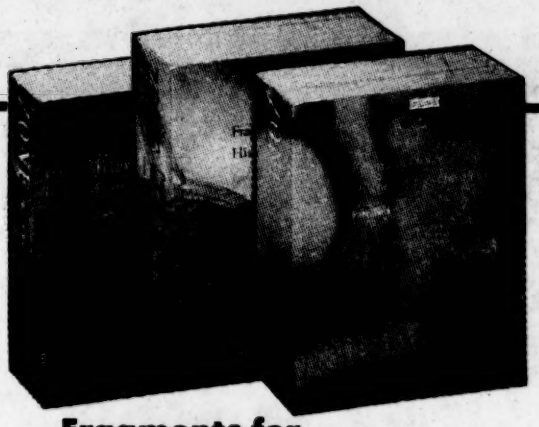
The number of books published each year keeps rising; His gross earnings fell; Turn down the heat, and many others, suggest that we understand MORE (increase) as being oriented UP (involving the VERTICALITY schema). There is a good reason why this metaphorical projection from UP to MORE is natural, and why MORE is not oriented DOWN. The explanation has to do with our most common everyday bodily experiences and the image schemata they involve. If you add more liquid to a container, the level goes up. If you add more objects to a pile, the level goes up. MORE and UP are therefore correlated in our experience in a way that provides a *physical* basis for our *abstract* understanding of quantity.

Fragments for a History of the Body

Imagine you have a body — you know, two arms and legs, a neck and head, a torso — the usual human configuration. Now imagine that you could travel through any period in world history and experience your body as it was experienced in that culture. Like a great actor, you switch effortlessly from costume to costume — Roman to Victorian to ancient Chinese — and with the costumes your posture changes, your personality, your religion, even your dreams. Your body begins to seem as mutable as fire.

Charles Le Brun, Cat and Man: Similarities between Human and Animal Physiognomies (seventeenth century).

Reading this ambitious three-volume collection of essays has that effect, not so much because of the writing (which is academic), but because of the sheer volume and variety of bodily variation covered and the beautiful illustrations and design. The theme is the body as cultural construct — so the authors explore how mental and physical capacities are entwined in the body, shaped to the particular morals and social circumstances of the time. Part One emphasizes the body's relationship to the divine, Part Two its relationship to the soul and emotions, and Part Three the relationship of body organs to the larger social body. This grand scope includes essays on perceptions of the body in ancient Gnosticism, the female body in the Middle Ages, a history of automata, healing in Japan, mapping the body, a history of the clitoris, ancient theories on semen and blood, and 40 other topics.



Fragments for a History of the Body
Michel Feher, Ramona Naddaff and Nadia Tazi, Editors
1989; 1,609 pp. (three volumes).
$19.95 each ($22.45 each postpaid) from Zone Books/MIT Press, Attn.: Order Dept.,55 Hayward Street, Cambridge, MA 02142; 617/253-2884.

The history of the body, as a discipline, is still in its infancy. So these anthropological, philosophical, and historical writings are definitely "fragments" of a synthesis yet to come. Part Three ends appropriately with a fascinating 100-page annotated bibliography of texts related to body history (a work-in-progress by Barbara Duden, who is working with Ivan Illich at Penn State on the subject). My biggest complaint with the series is that there are no biographical notes on the authors, or index. Since Zone Books prints many first-time translations from European writers, the biographical info would be most useful. But, altogether, it's a truly grand initiation to the body as text.
—Jeanne Carstensen

The arteries.
From Diderot, *L'Encyclopedie ou dictionnaire raisonné des sciences, des arts et des métiers*, 1765.

If a Wodaabe man can hold one eye still and roll the other in and out, this is considered especially alluring to women.

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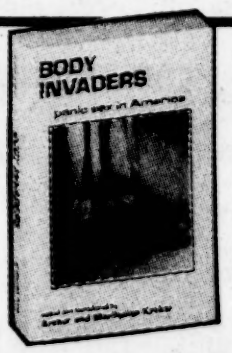
For seven days, up to one thousand Wodaabe* men participate in a dance competition judged solely by women. . . . Handsome young men vie for the honor of being chosen the most charming and the most beautiful, thus proving their outstanding ability to attract women.

* [Nomads of the Sahelian steppe, Nigeria.]

Body Invaders

*The body as object. As commodity. As icon. Cut free from its social, religious, and personal context, the human body exists in a kind of postmodern limbo, another artifact of the consumer age, as valued and valueless as a B-1 bomber, a portable CD player, or an Armani suit. In this series of fascinating and sometimes tortuously dense essays (the postmodern prose model appears to be a 747 engine-repair manual), **Body Invaders** examines the state of the body in a postmodern culture obsessed with its bodily fluids (urine for drug tests and blood as a disease vector), fashion/commodities, AIDS, Star Wars, pornography, diets . . .*
—Richard Kadrey



Body Invaders
(Panic Sex in America)
Arthur and Marilouise Kroker
1987; 275 pp.
$14.95 ($16.45 postpaid) from: St. Martins Press/Attn.: Cash Sales, 4th Floor, 175 5th Avenue, New York, NY 10010; 800/221-7945 (or Whole Earth Access).

•

The Capezio ad is . . . about the body debased, humiliated, and inscribed to excess by all the signs of consumer culture. The woman is prostrate and silent as if to emphasize the reduction of her body to a shoe tree. And, like a manic fantasy which follows from knowing ourselves only through a psychotic simulacra of bodily images (the advertising machine), the woman's body, from her facial expression ("devilishly") to the positioning of her limbs, intimates that subjectivity itself is now colonized. And why the shoes to excess? A twofold hypothesis: the advertisement itself is hyper-functional from the viewpoint of primitive accumulation (more product per image); and the prostrate body is all that is left after being inscribed as a background text for shoes: an object of parody, a site of impoverishment, a social remainder. Just because it runs to excess and, indeed, states openly about the humiliation of the body what other ads only suggest, the Capezio woman is a perfect sign of the "structural body" of the 1980s.

Is the Body Obsolete? A Forum

Jeanne: "The body is like a floating cloud."

Richard: Who said that?

Jeanne: The t'ai chi ch'uan master Cheng Man Ch'ing.

Richard: What do you think he'd say to the obsolete-body question?

Jeanne: Well, by learning how not to receive force the great masters can "use four ounces to deflect a thousand pounds." So the saying goes.

Richard: So?

Jeanne: People talk about how we only use a tiny fraction of our potential brain power . . . it's the same with the body. Those t'ai chi masters use physics, not magic.

Richard: He'd probably say the body is too underdeveloped yet to be obsolete.

(Jeanne and Richard decide to contact Cheng Man Ch'ing from the dead and ask him their question directly. The master, who was known as "Whiskers," now has a long, slender beard that brushes the ground as he walks.)

Richard: Master, we were wondering, do you think the body is obsolete?

(Cheng sits down gracefully, wrapping his beard about his body like a cape, and is silent. After several calm moments he speaks.)

Cheng Man Ch'ing: Practice the form. Too much thinking. Practice the form.

(Cheng fades away.)

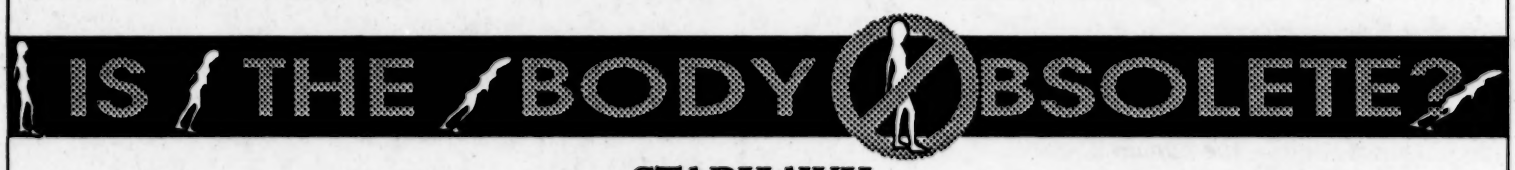
Jeanne: I guess he's not too interested in *talking* about the body.

Richard: Thank god these people were or we couldn't have put together this forum in time for the deadline.

Jeanne: No kidding.

Richard: He was dead anyway.

Jeanne: True. What could a dead person know about the body being obsolete? ■



STARHAWK

It's hard to answer this question because it seems essentially so silly. I have to suppress uncomplimentary speculations on the physical condition and sexual activities (or lack thereof) of those who dreamed this one up.

What are they offering to replace the body with? A machine? computer? But what machine can not only type but write prose, poetry, doggerel, historical analysis, fiction, and love letters? Not to mention play the drum (and not just a mechanical beat but a living rhythm that responds to subtle changes in mood and energy and shifts in meter), carry itself and supplies to sustain it into the wilderness for a week and emerge without leaving any trace of its passage, reproduce itself, rear and feed its own young, paint pictures, sew curtains, turn cartwheels, not just sing but create music to be sung, repair its own injuries and diseases, and throb with pleasure at the touch of another body? My body can do all of the above (well, all right, so I can't actually turn a cartwheel), and it's frankly just an average sort of body as bodies go.

I enjoy technology that augments my body — the computer upon which this essay was typed, the backpack that gives me the freedom of the mountains — but I don't see that technology as replacing the body. There's a saying: "If it ain't broke, don't fix it." The body is a near-miraculous organism of unsurpassed versatility, flexibility, and creativity. What machine can begin to replace all that? And why would we want to?

Embodied thought is inherently different from disembodied thought. My work on this article changes when I go outside and take a walk. *Because I can play the drum, I understand things that no machine can.* The difference is subtle, but real — an aspect of what we call the *mysteries* — the processes of life that go beyond the rational and quantifiable.

The essential question here is one of value. To consider the body something we can transcend implies that it has no inherent value, that it exists only as a vehicle for something else. This is a concept not new in Western culture — at times, the body was seen simply as a rather tainted vehicle of the soul; at other times, as a clumsy vehicle of reason. Now we seem to be viewing the body as an imperfect machine.

All these views imply a split between body and something else, in which the body comes out lower, less important, something to be done away with. By extension, women, whose bodies bring new bodies into being, are also seen as lesser and tainted. And the earth-body is itself viewed as something to be transcended, used for what can be extracted, and then discarded.

Rather than trying to transcend the body, we'd do better to ask how we can heal this split in consciousness, and preserve and restore the living, organismic functions of the earth. Because this split has brought us to a situation in which organic life on earth is threatened on all counts.

I don't need to experience a nanosecond in order to have direct experience of the world. My computer can handle the nanoseconds for me, but no computer can touch the living bark of a redwood tree, entertain a small child, dance to rock-and-roll music and really do justice to a dish of sauteed prawns. For that matter, speaking of justice, no machine can challenge social systems, envisioning a world of greater freedom and shared abundance. Imagination is body-based. So is passion, and compassion. And justice is an abstraction that has meaning only when brought back to the concrete details of the real lives of embodied beings.

Embodied life can never be wholly controlled, because the complexity and flexibility of organic consciousness inevitably generates surprises. Perhaps the real impetus to replace the body with the machine comes from the desire to exert total control over society, knowledge, and the processes of growth and development. But such control is an illusion that stems from a mechanistic concept of the universe. Modern physics and ecology, not to mention our direct experience of the global environmental mess, show us that our knowledge is inevitably only partial. We cannot observe a thing without changing it; when we change one element of a system, we affect all aspects that interact in ways too complex for us to fully understand. So when we "replace" something naturally evolved with something human-made, we actually only replace a few of its functions. An infant can survive on synthetic formula, but mother's milk is better.

The truth is, when we hear computer experts and roboticists say, "The body is obsolete," what they really mean is, "We are on the verge of being able to replace certain functions of the body, and we have decided to ignore the others." Maybe the ability to

Skeleton drummer
(Tamborilero esqueleto)
by Pedro Linares.

turn cartwheels or have orgasms seems irrelevant to a roboticist (I hope not). But the rest of us perhaps need to assert control over these decisions and remind even those who dwell in the arcane realms of logic, mathematics, and infinitesimal fractions of time that they do not have the right to decide for all of us what functions and values of the body can be assigned to the scrap heap.

Or is the real issue here the fear of death? In earth-based spiritual traditions, death is part of the cycle, something we learn from, not something to be avoided. We cannot dodge death by fleeing from organic life, we can only diminish our capacity to fully experience life. Personally, I'll elect to keep all functions of my body, even knowing that someday they must end, because the body's capacities for pleasure, creativity, and transformation continue endlessly to surprise me. ■

Starhawk is a peace activist, leader in the feminist-spirituality movement, and author of Spiral Dance, Dreaming the Dark *(EWEC p. 99), and* Truth or Dare *(WER #62, p. 128). She is also a practicioner of the Old Religion of the Goddess, or Witchcraft, which sees the cosmos as the living body of the goddess. Her life and writings express a worldview based on the immanent value of all life.* —*Jeanne Carstensen*

IS THE BODY OBSOLETE?

MARK O'BRIEN

I awake every morning in an iron lung, a 900-pound mechanical beastie. I spend most of my days inside it, breathing in rhythm to it, because polio has made my own organic lungs incapable of breathing for more than an hour on their own. The iron lung depends on me for providing electricity and maintenance, just as I depend on it for air. You could think of the two of us as an organism with the iron lung contributing air and a massive metal shell and the human inside contributing conscious direction. Together, we are almost like a robot, although we are the opposite of freely moving and lack functioning arms.

When I hear talk of the human body being replaced entirely by robotic devices, I think — why bother? Except for my lungs, all my internal organs work well. My consciousness blazes as brightly as the sun on a farm morning. I lack these powers: breathing, locomotion, and the ability to manipulate objects. It is conceivable that an improved iron lung could be manufactured today, a self-propelled iron lung that is smaller, lighter, simpler to maintain and equipped with a voice-activated robotic arm. Of my own will, I could go to a restaurant, order a slice of quiche, feed myself, wipe my face, pay the bill, leave a tip and vamoose. It would be interesting to see how many times I could do this before the other customers quit screaming and ducking under the tables.

Of course, such an advanced evolution of the iron lung would be very expensive using current technology. A prototype robotic arm that can feed a quadriplegic and delicately wipe his or her mouth already exists, but it costs $30,000. But more advanced technology could produce a dream-machine iron lung at affordable prices.

What would we have then?

A human being controlling a device, that's all. A complex, subtle device, to be sure, but the *relationship* between the human and the machine would be identical to that of a human driving a car, programming a computer, or using any other device. The human would remain in charge, supplying conscious direction, just as we always have, ever since people started making baskets, pots, and flint tools. This is because our impulse to invent has come from a desire to supplement our strength or our senses. Even now that we have computers to handle information faster than human consciousness could, we don't relinquish the overall direction of these computers.

There have been exceptions to this, such as the Soviets' decision to automate their defenses so completely that computers alone would decide whether to retaliate against a NATO attack. But this decision was widely deplored and I'm sure it caused the Soviets much consternation and regret. No doubt the Soviet leadership felt forced to relinquish this power because of NATO's installation of Pershing II and cruise missiles, which cut their warning time considerably. Now that these missiles are being withdrawn, I bet the Soviet leaders will take back that

power. It was Karl Marx who noted that powerful people never give up their power voluntarily.

I'm not a powerful person, but I am not about to surrender the power of conscious direction, the one power left to me. If I get a dream-machine iron lung that takes me to a restaurant and orders liver and onions for me, I will junk that machine because *I hate liver and onions.* Like most people, I prefer to make my own decisions, and I'll be damned if I let anyone or anything deny me this defining aspect of my humanity.

Bodies chug along for a few years and then collapse. It would be convenient if we could transfer our consciousness from a clunky old conveyance to a glossy new one, but no one has showed me how that could ever be done. The best we can do is transfer our memories to paper and children, which is what we've been doing for millenia. What we can't transfer is our souls, by which I mean our power to decide. To believe that we can is as foolish as believing that a book is as conscious as its author. What I, as a disabled person, need is what we all need — better devices under our conscious control, not the abolition of our consciousness. ■

Mark O'Brien was severely disabled by polio at age six. He lives most of his life inside an iron lung but can also navigate the streets of Berkeley from the controls of a power wheelchair. Computers revolutionized Mark's ability to communicate and live independently. He has reviewed these and other enabling technologies for disabled people for WER, EWEC, *and the* Whole Earth Software Review. *—Jeanne Carstensen*

IS THE BODY OBSOLETE?

MARVIN MINSKY

Human beings are essentially machines. However, the word "machine" isn't very evocative because when you say "machine" people think of simple things like typewriters and cars. The word doesn't communicate the complexity of the thing. The word "machine" means "a physical system that you understand," and since people don't know how the brain works, the word has the wrong implication. Now if you tell somebody they're a machine you're saying, "You're so simple, I understand you." But that's not a problem of the machine, that's a bit of autobiography. Someday there'll be machines so smart they'll understand us and they'll say, "People are machines, but we aren't."

Consciousness is just having certain kinds of short-term memory registers that describe a little bit about what you were recently thinking. In fact, consciousness in humans is not very strong. We can't remember very much of our thoughts. When we can solve all the other technical problems, it will be easy to make machines that are much more conscious than we are. Increasing the availability of short-term memory would be a first step. No one knows why we have such limited short-term memory, but I suspect it's because our short-term memory systems are actually large, expensive pieces of brain and we only have about a dozen of them. When part of your brain operates, like the part that makes sentences, there isn't another part of the brain that remembers how it did it. That's why people can't explain their grammar. That part isn't conscious. You have to have scientists work for years and years to find out even a little bit about it. If we were truly conscious, we would know right off how we made sentences as we made them.

If it was possible, I would have myself downloaded. Why not? The idea of not dying just after you've learned almost enough to solve a problem is compelling. It doesn't have to be immortality, but it would be nice to live 500 years, wouldn't it? Right now, there's too much known for anyone to understand in a single lifetime. And there's no reason the systems should break down if you use modern reliability techniques because you could replace each of the parts. The trouble with biology is that it tries to fix things, but it isn't very good at it. If you look at the error checking in the cell-repair part of the genetic code, it's really contemptibly low-grade compared to what we could do now if we redesigned the whole thing. Of course, immortality has its own problems. Overpopulation and that sort of thing. I don't see any real problems except that one huge mind could use up the universe. And you could make two copies of yourself in case one didn't work. Perhaps send multiple copies of yourself out to lead different lives.

When it comes to downloading, you could make up ethical problems easily enough. There are always ethical problems with anything. Ethical problems depend on people's ethics. I don't believe in any absolute ethics anyway. Ethical problems are actually political and evolutionary problems. "Thou shalt not kill" is senseless if you think in terms of competition between species. I think the importance of downloading is just allowing evolution to proceed. And evolution seems to be leading us to a machine consciousness. ■

Marvin Minsky is a Donner Professor of Science at MIT and one of the original pioneers in Artificial Intelligence research. In his book, The Society of Mind (SIGNAL *p. 202), Dr. Minsky explains his theory of how a mind can be constructed by linking individual components, none of which are conscious on their own. This essay was excerpted from a phone interview.*
—Richard Kadrey

IS THE BODY OBSOLETE?

SALLIE TISDALE

I was a tomboy. I wore torn cut-offs, t-shirts, short hair, and no shoes all the hours of the long bright summer days. My brother and I would hike the big, dark pipes that passed the nearby creek beneath the streets, listening to the echoes of our bare feet knocking rocks against the metal in the cold trickle we crossed. I climbed, everything: jungle gyms, fences, reservoirs. I flopped in the dust by my father's shop to count grasshoppers. I could swing higher than anyone else around, and fling myself out at the end of the arc with a primitive, lusty cry. That name, tomboy, never meant a thing to me, except perhaps as a point of pride: it meant a girl who lived solidly inside her body, rather than simply on its skin. I was my body and my body was me, and that more than anything defined the limits of space. I remember reaching the top of a very tall cedar tree one afternoon and perching at its swaying, flimsy tip, sticky pitch on all my fingers, rocked by a giddy, wet-palmed thrill. It seemed, under that canopy of heat and air, that I looked out of my own eyes and saw the world from the world's very center.

I have a photograph taken the summer I was eleven years old. I am with two friends, entangled arm and leg, shirts hiked up cockeyed across our bare bellies. Even with breasts blooming out under my shirt, even with coarse hair beginning to sprout between my legs, I was at ease. I was thoughtless and free. It was the last moment, I think, in the life of that particular body; when that summer ended that body died and a new one — an altogether different one — was born.

I am thirty-one. I am midway through the life span of my current body, a weaker, softer shell than the last but not without its virtues. Barring the unexpected — wouldn't that be lovely? — I can expect this body to last, in more or less the same condition, another 25 years. And then my second body will die (perhaps all at once, in one summer's breath) and my next body, my old and altogether different body, will be born.

I find it hard to admit how much I think about my body. There are new points of pride, opposing beliefs hard to reconcile. I see many people my age caught in a frantic state of body amendment, struggling to mold and refine the recalcitrant shell, neglecting other duties, other joys, in the effort. I am too lazy, too fond of leisurely pleasures, to participate. Then there is the intellectual disinterest in the body, an absent-minded inattention to the body's needs, the willingness to injure the body in casual ways for more immediate goals. This is the pride I pretend to, but the fact is that I struggle with an almost ceaseless concern for my body and the bodies of other people. (I am far more forgiving of other people's bodies.) The body haunts me; body as idea, body as object, sensation, boundary, the body as a universal and the body in isolation. The specter takes several shapes. There is sex, the possibility of it, its prohibitions and risks. There is the fear of illness and pain — those little twitches in my legs at night, the sudden ringing in the ears. There is the eternal fountain of taste and sound and sight, the grief which lives at the heart of beauty — because, lastly, there is the certainty of decline. My joints dry up day by day, my neurons skip a signal, my liver sags a bit in its own damp darkness. Whether I am looking from the center out, or from the outside in, the body is there, unforgettable and constant and seductive. I can beat it, abuse and neglect it, deprive it, but it won't go away and God knows I hope it stays here a long, long time to come.

A long time ago, in that other body, I didn't consider the nature of bodies. In fact I think it is part of the nature of child bodies *not* to consider themselves, but simply to use themselves.

And oh! the uses to which those bodies can be put! That body of mine climbed steep and winding trails, swam lakes, tumbled through football and slid through skiing. That body slept with an unconscious and total grace. That body did what it was directed to do, unfailingly, without complaint. There was no separation. No analysis. No ghost. My body was me and I was my body; if I thought at all it was about the way my body stood in relation to the bodies — which were the selves — of the people with whom I shared the world.

In my current incarnation I am one step removed from the shell. Perhaps it is in the nature of adult bodies to do this, to think about themselves. I think about the *ethos* of my body, defined by its tendencies. This shell I'm in has a tendency to respiratory problems, is allergic to codeine, has green eyes, delivered one baby shell. It came complete with all the requisite equipment, and a few pieces have since been removed. Another shell, your shell, will have a different ethos. It is possible for me — uncommon, but possible — to view my own body without judgement. I can see the body as a metaphor, that my body in all its imperfection is a physical expression of an internal self. It is *just* my body, a transient and changing thing, the product of many forces beyond my reckoning: merely a thing which arrives, has a life, and dies in its own proper time. My body is my Doppelganger, far less substantial than it often appears to be.

If I live a very long time, I will have another body still, not old, but very old, a delicate gift few people are granted. Old, old women have pale milky skin, soft and velvety to the touch. Their faces are marbled with fine wrinkles and rivers of tiny veins. Old women are stiff, inflexible, and sagging all at once; they have difficulty with ordinary acts. How far away

Self-portrait reaching for the Red Star sky ***Denise Dixon***

from their bodies do they stand? All those years spent moving outward; making, taking, doing, producing. Then the tables turn: no choice but staying in: asking, needing, receiving.

There is yet another kind of body, not young, not old, but broken. On the day after Christmas I was working in a nursing home. I sat on Helen's bed, singing Christmas carols, la-la-la-ing through the second verse of "Good King Wenceslas." Helen has a neuromuscular disease full of twitches as big as trees. Her head and limbs flop about, her face is blank as a statue's. She is a victim of the selfsame virtues of nerve and muscle that make the child body such a splendid vehicle. She is kinetic, uncontrolled. I spooned pureed sausage and oatmeal into her mouth bite by slow bite. She said one word — "Hot!" — flung out at me just as her hand smacked my wrist and spilled a spoonful into the sheets. I was busy, we were short-handed, my adult body in all its speed wanted to be up and gone; I wanted Helen to *hurry*. But I took my time. Helen can't be hurried, her body doesn't work that way. She is her self's sculpture in the world; what I see of Helen, the relationship between my ideas, my hand, Helen's mind, her trembling shell — this is the way the self takes up space. This is all we have.

I relay on a saying of Buddhism: "Birth and death are moments in time." The body is a solid pillar of dividing cells thrust from one universe into this, as long as the span of a life. And what a piece of work the body is, after all. Sometimes I get lucky, sitting on the side of another body's bed, and balance on the edge just so, looking out of someone else's eyes and seeing the world from the world's very center. Then I'm astride the entire earth, and I lean back for a walloping ride. ■

Sallie Tisdale frequently explores somatic issues in her work as a nurse and her writing on topics such as high-tech medical care, abortion, nursing homes, and burn victims (WER #50). She is currently writing about the effort to preserve the native Hawaiian language and has been awarded a fellowship from the National Endowment for the Arts. —Jeanne Carstensen

IS THE BODY OBSOLETE?

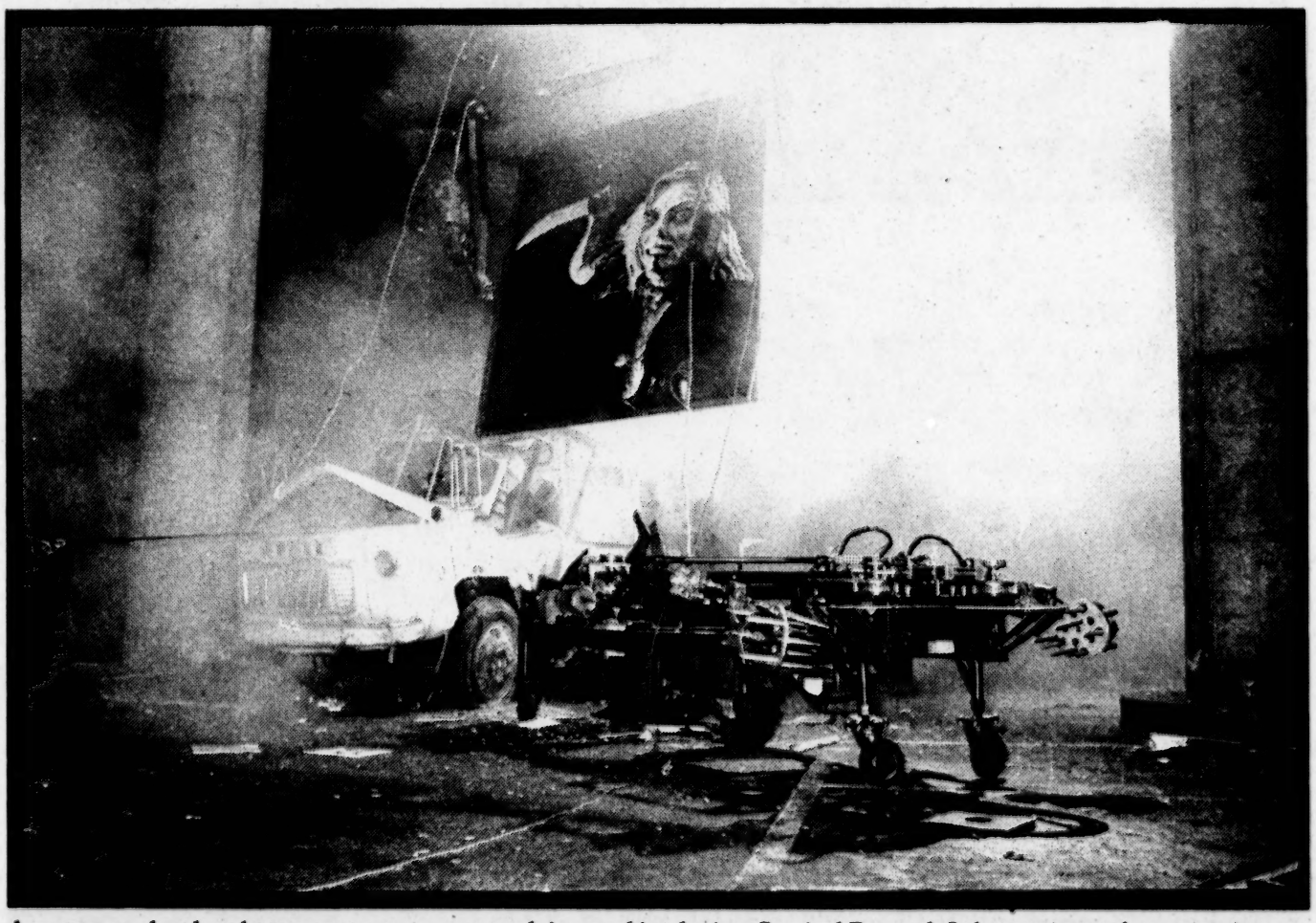
MARK PAULINE

I feel that what I'm doing now with Survival Research Labs is preparing me to *be* a machine; to me, the highest level of evolution would be to be a machine and still have your soul intact. I'm very skeptical about people's ability to do that, though. There's no protocol to prepare people to deal with that kind of power in a way that would be positive. Right now, our relationship with our devices is very distorted by money and aggression and the needs of politics. Machines have a bad name for the same reason that guns have a bad name. Why are guns bad? They're not bad, but people employ them in a way that's very negative.

The downside of being a machine is that machines tend to be singular in their purpose. If you were connected with a machine it would limit you, to some extent. But if you were able to connect with thousands of different machines, and control and be part of thousands of attachments, that would be different. One of the problems of being a person is the whole redundancy of existence, especially when you get older. After about 18, I don't think people change very much. That's what this whole quest for personal growth is about. It's about taking yourself out of your body or out of your ego, out of these things that have become fixed inside you. For me, the ideal relationship between myself and a machine would be to allow myself to grow by giving myself millions of options. That's why SRL is really positive for me. As a creative person, it enables me to get involved not with one or two kinds of painting, for instance, but with the billions of devices you can make with machines. There's no limit, really, to how many kinds of different machines you can make, because how many different kinds of machines are there? There are already millions of different kinds of machines, and they're defined only by their productive capabilities. No one's thought about the machines that aren't productive, that are just ideas. For me, my evolution, my life, is already determined by the multiplicity of possibilities of my connection with machines. If I could actually become a machine, I wouldn't; I would become *machines*, all machines. ■

Mark Pauline is the guiding intelligence behind Survival Research Laboratories, a group specializing in darkly satirical performances using deadly homemade robots. Mark has described SRL's activities as the ultimate capitulation to the machine. By taking machines out of the realm of "production," he gives them the opportunity to express their personalities, and ". . . do something besides make widgets or bottle beer."

—Richard Kadrey



Bobby Neel Adams

A custom-made robot destroys a street sweeper truck in a parking lot in a Survival Research Laboratories performance.

IS THE BODY OBSOLETE?

HYAPATIA LEE

The body is not obsolete, but the mind is. Through our obsolete minds we have created religions and other pseudo-reasons to deny our bodies something that is natural, healthy, and scientifically proven to be good for us — sex. Our body knows it is good; it feels great; but our minds are way behind, feeling guilty and calling sex "sinful."

Feminists like Andrea Dworkin would say that the body is obsolete because the very act of sexual intercourse puts men in a dominant and women in a submissive role because men are penetrating women. The mind could see it another way. A woman engulfs and encompasses her man. She surrounds him, and, of course, only she can create life within her and give birth.

In one small way AIDS has been good for us for it has forced us to talk openly and honestly about our sexuality. When we view sex as sinful and our own sexual organs as dirty and not healthy, this separates us from our bodies.

The Meese Commission was a grand exercise in intellectual obsolescence. With the unemployed, the homeless, the hungry, and the huge deficit, our government spent our money to watch some X-rated movies. They claim they were investigating whether such materials caused violent and sexual crimes. Such crimes, however, existed long before the camera or moving pictures or even the printed word. Overcrowded rats rape and kill without books or VCRs. Who is watching the illustrious members of the Congress (who watched, by selection, some of the most violent, hard-core footage ever shot) to make sure they are not committing sexual crimes? If, after watching all that, they are not molesting, flashing and raping, why do they believe the rest of us would be?

The body is not obsolete, it just doesn't come with an owners' manual to tell you how to use it. You must respect your body enough to think about it. Thoughts do manifest reality. A body can only run on what you give it, and it does not exist independent of your mind. If we let our bodies work with our minds, perhaps our bodies can teach our minds how to move safely into the future. ■

Hyapatia Lee acts in adult erotic films, often working with her director husband, Bud. She belongs to the Pink Ladies Social Club, a group of artists inside the X-rated film industry that looks out for the well-being of the women who work there.
—Richard Kadrey

Lynda Barry, *Naked Ladies*

IS THE BODY OBSOLETE?

NINA HARTLEY

Anyone who has regular orgasms can tell you the absurdity of saying the body is obsolete. Besides, how can our bodies be outmoded? In the first place, we've never claimed them (or the deep pleasure they can give) for ourselves. Millennia of patently anti-sexual religious indoctrination has prevented us from truly knowing, loving or accepting our bodies. Countless people are so alienated from their physical selves that they are willing to self-righteously deprive others of their civil rights on the grounds of preserving "decency" or "family values." It is through our bodies that we interact with the world. Without the physical body we are nothing, can feel nothing, create nothing.

As privileged middle-class people in a post-scarcity society, our basic needs are more than adequately met. Our claims to civilization are nothing but self-delusion if we do not use our considerable technological know-how to stem the population tide, the pollution tide, and improve the living conditions of the third world. Would it not be better to spend our computer-given leisure time addressing these issues? We should be exploring our sensual/creative potential, learning to revere the Nature within us, to share with others, to connect, to make love. If we only go around once in this life (and there isn't exactly overwhelming evidence of "other lives" to contradict the thought that this life is all we will know), then the quality of this one should be paramount. To seriously entertain the thought of supplanting human life with artificial intelligence is the epitome of cynicism. It is this kind of "techno-thought" that makes me fear that western civilization has gone mad.

The human mind and body are neither sacred nor replaceable, but material, and are a constant delight to explore. ■

Nina Hartley describes herself as a "feminist porn star"; acting in X-rated films is one way she chooses to express the sexual freedom she sees as one of the tenets of feminism. She has written and spoken about working in adult films, and contributed to the book Sex Work, *reviewed by JC in this issue (p. 44).*
—Richard Kadrey

Pornography and Silence

This book has changed the way I literally see the world. Susan Griffin's argument is that, contrary to popular opinion, pornography is not a small, specialized subculture; it is the essence of Western Christian culture. Dominance and submission, mind over matter, soul over body, men over women, white Christian men over dark Jews, blacks, etc.: this is the very substance of our culture.

—Don Hanlon Johnson

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De Sade tells us: ''What need for the heart to have a role in the situation in which only the body plays a part?'' For in the thinking of the pornographic mind, it is the body which is the lower half of human nature, and which corrupts the soul. Yet the pornographic mind, like the doctrinal mind [of the theologian], denies the knowledge of its own body.

By the mechanism of projection, this mind succeeds in detaching itself from its own bestiality. In this mind, the bestiality of a man's nature is expressed in a woman's body.

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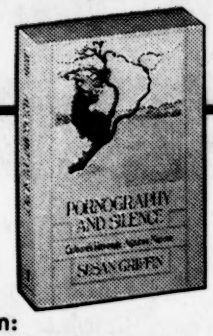
We must remind ourselves once again that in pornography a ''woman'' is not a *woman*. She is a symbol. She is a denied self that is human. As we look more deeply into a culture which has fashioned itself after the pornographic mind, we will find that sadism and masochism have not been derived from the biological behavior of men and women, as some theorists have supposed; but rather that the ideas of masculine behavior and of female behavior have been shaped by culture to embody sadomasochism.



Pornography and Silence
Susan Griffin
1981; 277 pp.
$7.95
($9.45 postpaid) from:
Harper & Row, Rt. 3/Box 20B, Hagerstown, MD 21740; 800/638-3030
(or Whole Earth Access).

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It is perception above all which will free us from tragedy. Not the perception of illusion, or of a fantasy that would deny the power of fate and nature. But perception wedded to matter itself, a knowledge that comes to us from the sense of the body, a wisdom born of wholeness of mind and body come together in the heart. The heart dies in us. This is the self we have lost, the self we daily sacrifice. The tragedy of Oedipus Rex is our tragedy, and we relive this again and again, in our own lives, and in history.

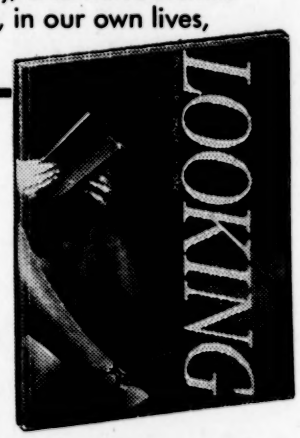
Pornography is a complex, highly emotional issue that is too often simplified into a polarized debate over censorship — for or against. We present these reviews to encourage discussion of what pornography is and how it functions in modern society. —JC/RK

Caught Looking

This collection of essays by feminist writers argues for freedom of sexual expression and against censorship of pornography. It's lavishly and often humorously illustrated with sexually explicit photographs and artwork from the 1890s to the present. This bold design serves the book's purpose well — to make the point that antipornography laws, which rely on vague definitions of ''obscenity'' which are ''interpreted'' by the courts, could take away your opportunity to be ''caught looking'' at this book. (In a useful, compact chronology of the pornography debate since 1966 in this collection, Nan D. Hunter writes that Phyllis Schlafly tried to ban the now-classic ***Our Bodies, Our Selves*** *claiming that ''it encourages masturbation, lesbianism, premarital sex, and abortion.'')*

Caught Looking *is a response to the debate over the efforts of feminists Catherine McKinnon and Andrea Dworkin to pass antipornography ordinances in several U.S. cities. Critics of the ordinances believe they would lead to widespread censorship of sexually explicit material, both pornographic and educational, and worse conditions for many women in the sex industry. The questions raised in this book won't go away soon. Like, what is the relationship between violent images and actual violence? And, how can women be protected against widespread violence in this society?* ***Caught Looking*** *is convincing evidence that restricting sexual speech is not the way to answer them.*

—Jeanne Carstensen



Caught Looking
Kate Ellis,
Beth Jaker,
Nan D. Hunter,
Barbara O'Dair,
and Abby Talmer
1986; 96 pp.
$9.95 ($11.45 postpaid) from:
The Real Comet Press, 3131 Western Avenue # 410, Seattle, WA 98121; 206/283-7827
(or Whole Earth Access).

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Gut reactions are notoriously unreliable, leading people to do things like begin crusades against homosexual schoolteachers. The truth is that nobody knows why a man becomes a rapist. Rape is a terrible crime. Women have a just and heartfelt need to defend themselves against it and (if possible) put a stop to it. But will our best interests be served by devoting our slender resources and limited time to wiping out pornography? Surely no one believes that all or most of the people who use pornography commit crimes of sexual violence. The number of individuals susceptible to this sort of influence must be very small. But many other factors, aside from the pornographic material, must contribute to a rape or other assault. It is the rape, the act itself, that is a crime — not reading a pornographic book.

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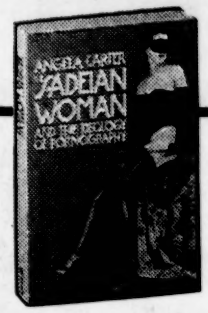
Difficulties arise from the vagueness of certain terms crucial in interpreting the ordinances. The term ''subordination'' is especially important, since pornography is defined as ''the sexually explicit subordination of women.'' The authors of this legislation intend it to modify each of the clauses, and they appear to believe that it provides a definition of sexism that each example must meet. The term is never defined in the legislation, yet the Indianapolis brief, for example, suggests that the average viewer, on the basis of ''his or her common understanding of what it means for one person to subordinate another'' should be able to decide what is pornographic. But what kind of sexually explicit acts place a woman in an inferior status? To some, *any* graphic sexual act violates women's dignity and therefore subordinates them. To others, consensual heterosexual lovemaking within the boundaries of procreation and marriage is acceptable, but heterosexual acts that do not have reproduction as their aim lower women's status and hence subordinate them. Still others accept a wide range of nonprocreative, perhaps even nonmarital, heterosexuality but draw the line at lesbian sex, which they view as degrading.

The Sadeian Woman

Most people read the works of the Marquis de Sade, perhaps the most famous pornographer of all time, backwards: they look through a book like ***Justine****, gobbling up all the sex scenes and skipping all the speeches. Wrong. Although sex itself clearly obsessed Sade, his overriding concern was how the repression and control of sex is a powerful control mechanism (especially of women). In* ***The Sadeian Woman****, Angela Carter does not excuse Sade the pornographer; in fact, it is the very pornography of his work that she finds important, "because sexual relations between men and women always render explicit the nature of social relations in the society in which they take place and, if described explicitly, will form a critique of those relations . . . " Carter considers Sade a visionary writer; in 18th-century France he was able to write about women in positions of power that had nothing to do with their ability to bear children, something, she points out, as rare now as it was 200 years ago. Carter sees Sade as trying to use pornography to construct a machine for sexual emancipation that would lead ultimately to freedom for both sexes. Like Sade, freedom and equality are what Carter is looking for; not necessarily a pretty or a safe world, but one where men and women are free to control their lives, and not be controlled.* —*Richard Kadrey*



The Sadeian Woman
(And the Ideology of Pornography)
Angela Carter, 1978; 154 pp.
$7.95 ($8.95 postpaid) from:
Random House/Order Dept., 400 Hahn Road, Westminster, MD 21157; 800/638-6460
(or Whole Earth Access).

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Were Madame de Mistival to have come (to orgasm), then all the dykes would be breached at once and chaos and universal night instantly descend; pleasure would have asserted itself triumphantly over pain and the necessity for the existence of repression as a sexual stimulant would have ceased to exist. There would arise the possibility of a world in which the concept of taboo is meaningless and pornography itself would cease to exist. Sade, the prisoner who created freedom in the model of his prison, would have put himself out of business; he is as much afraid of freedom as the next man. So he makes her faint.

He makes her faint because he can only conceive of freedom as existing in opposition, freedom as defined by tyranny. So, on the very edge of an extraordinary discovery about the nature of the relation between mothers and daughters, at the climax of his pioneering exploration of the most obscure of psychic areas, he gives in to a principle of safety. Instead of constructing a machine for liberation, he substitutes instead a masturbatory device. He is on the point of becoming a revolutionary pornography; but he, finally, lacks the courage.

The Secret Museum

As late as the 18th century, the word "pornography" did not exist. By the 19th century, whole areas of art and literature had fallen under the "pornographic" label, and all of the art of past centuries was being reexamined to discover which of it had been pornographic all along, without anybody realizing it.

In ***The Secret Museum****, Walter Kendrick explores the shifting definitions and significance of the word "pornography," from its invention as a means to describe artifacts found in the ruins of Pompeii, to the sensational trials of works like* ***Madame Bovary*** *and* ***Ulysses****, to Lyndon Johnson's Commission on Pornography and Obscenity, to the MacKinnon-Dworkin ordinance that made it possible for individuals to sue "pornographers" for violations of their civil rights.*

There are few hard conclusions here, perhaps because conclusions about the danger or value of "pornography" are as difficult to agree on as a definition of the word. The image that will stay with me the longest is the one that gives the book its title: Victorian curators of the Pompeiian artifacts created a real secret museum that would only admit well-to-do adult males. The theory was that gentlemen of breeding were the only ones who could be trusted to view the ancient "pornography" without running amok. It didn't work. Somehow "pornography" made its way out of the museum and into the streets. But was the street pornography the same as the museum's? Then why was the street pornography hunted down and burned and the museum's merely caged? The answers now are no better than the answers then. "Pornography" is a chameleon, and for the moment, that may be the closest we can come to a definition. —*Richard Kadrey*

The Secret Museum
Walter Kendrick
1987; 288 pp.
$7.95 ($9.95 postpaid) from:
Penguin USA, 120 Woodbine Street, Bergenfield, NJ 07621; 201/387-0600
(or Whole Earth Access).

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The 1986 *Report on Pornography* is an unbelievably fatuous document, riddled with false reasoning and bad prose. It is also blatantly pornographic. Evidently intending to inform the reader exactly how grotesque trash can be, the Commission provided three hundred pages of summaries and descriptions, some with dialogue: "I want to taste your cum. I want you to cum in my mouth. I want to feel your hot cum squirt in my mouth," and much, much more in the same vein. No doubt this established a landmark in the history of government publications. Perhaps, however, according to the Commission's reasoning, such vile drivel could have no deleterious effect because it appeared in words, not pictures. The *Report* exempts the written or printed word from all prosecution, on the grounds that "the absence of photographs necessarily produces a message that seems to necessitate for its assimilation more real thought and less almost reflexive reaction than does the more typical pornographic item. There remains a difference between reading a book and looking at pictures. . . . " The real difference, of course, had to do with the nature of the Young Person, late-twentieth-century style. He was a functional, if not a total, illiterate; the danger he posed was heightened rather than reduced by this disability.

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The fifty-year project of the *Oxford English Dictionary* reached "P" in 1909; its definition of "pornography" is, oddly, more complex than any later one. The first meaning, surprising to a modern reader, comes from an 1857 medical dictionary: "a description of prostitutes or of prostitution, as a matter of public hygiene." Modern readers are familiar with this kind of whore-writing, but the last thing we would call it today is "pornography." The OED's second definition is somewhat more up to date: "Description of the life, manners, etc., of prostitutes and their patrons; hence, the expression or suggestion of obscene or unchaste subjects in literature or art." It seems strange that this, a close approximation of what we now mean by "pornography," ranked second in 1909 behind a definition that now is completely outmoded. The vocabulary is outmoded, too: we seldom use the word "obscene" nowadays, and "unchaste" never. And though we may still have some recollection of a time when literature and art were called "pornographic," that time is far behind us. Instead of starting out simple and turning complex with the passage of time, "pornography" seems to have moved in reverse, growing perversely from multiplicity to oneness.

Sex Work

This is a cutting-edge book on a virtually unexplored topic: sex workers as subject and not object. These include street prostitutes, call girls, porn actresses, massage parlor workers and others. The first-person stories that fill the first two-thirds of the book relate a wide variety of experiences in personal detail: a woman in her fifties who becomes a well-paid prostitute in Paris; working in a massage parlor in San Francisco; a prostitute getting raped and trying to get help from the police in San Jose; a writer/call girl writing and working happily out of her home; a young girl's first time working the street in Berkeley. No attempt is made to generalize about why these women are sex workers: each story is raw and individual.

The last third of the book is essays from international sex workers' groups like WHISPER (Women Hurt in Systems of Prostitution Engaged in Revolt), The Red Thread ("the whores' movement in Holland"), COYOTE (Call Off Your Old Tired Ethics) and the U.S. PROStitutes Collective. These organizations help sex workers achieve the safest working conditions possible and lobby for programs to help them find other work if they want it. For most groups this means decriminalizing prostitution. Priscilla Alexander's essay, "Prostitution: A Difficult Issue for Feminists," is an excellent historical overview of prostitution. Also included

Sex Work
(Writings by Women in the Sex Industry)
Frederique Delacoste and Priscilla Alexander, Editors
1987; 349 pp.
$10.95 ($12.45 postpaid) from: Cleis Press, P. O. Box 8933, Pittsburg, PA 15221; 412/731-3863.

is an extensive bibliography of books by and about prostitutes, fiction and nonfiction. —*Jeanne Carstensen*

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I explained to Monsieur that I was an American. He looked amused. He was bald and I was fifty-five. I was still wearing my Indian skirt, peasant blouse and huarachas. I looked like no other hooker he had ever seen. . . . He opened his briefcase, which I assumed was filled with important papers. Instead, he pulled out a black lacy garter belt, black silk stockings and a black bra. "For me?" I asked. He shook his head. He undressed and put them on. "Don't laugh," he said.

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A car turns the corner and Kim gets out of a tan Toyota. She's five months pregnant, but it doesn't show yet.

"How'd ya do?"

"Shit. There ain't no money out here tonight baby. It's too cold."

"Yeah, only ho's and fools out tonight."

Kim is nineteen. Her mother turned her out, five years ago, when she was fourteen. Her mother used to work out here, too, until she O.D.'ed on junk last year. They had the same man, Ronnie. He has an after hours club uptown.

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In 1977, we were working on the street in Berkeley. I had just come from the drug store where I had purchased six dozen condoms to use in our work. The police stopped me and searched my car. They found the condoms. They said, "Oh, what have we here?" They took each condom out of its package, and using their penknives, cut holes in each one. They laughed, and one officer said, "Now go use these."

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Decriminalization allows for the possibility that the lives of prostitutes can become less dangerous. For one thing, under a comprehensive decriminalization scheme, it would be possible for prostitutes to join unions and engage in collective bargaining in order to improve their working conditions. It would also be possible for prostitutes to form professional associations, and develop codes of ethics and behavior designed to reduce the problems involved in prostitution as it now exists. Finally, it would be possible for experienced prostitutes to train new prostitutes, so that their first experiences would be less dangerous.

Sex for Beginners

Not a how-to manual. Not unless theories about sexuality turn you on. We have physiological and gender theories about sex; the Greeks on Eros, Sade on power, and Angela Carter on pornography; sex in the east and sex in the west; and, of course, highlights from Freud and Reich. The successful comic-book format of the "Beginners" series (Marx, Freud, and Zen for Beginners, etc.) zips right along through these, and other sexual historical climaxes to the concluding speculations about where the sexual revolution is leading us and the challenge of AIDS. (For over four centuries, contracting syphilis was the same as receiving a death sentence, the authors remind us.) Perspective is what this book is about — the cultural baggage that comes attached to each tasty kiss. Smack. —*Jeanne Carstensen*

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Sexual attitudes often reveal a great deal about the structure and values of a society. The people of Samoa, for example, never appreciated the merits of the Missionary Position. In their culture men and women were more equal than in Europe. Why, under these circumstances, should the female, always be below?

Sex for Beginners
Errol Selkirk
1988; 221 pp.
$7.95 ($9.45 postpaid) from: Writers and Readers, P. O. Box 461, Village Station N, New York, NY 10014 (or Whole Earth Access).

Besides, an islander might add, this position often hampers the woman with the weight of the man. Isn't it better that both parties stay active, so that each can give and get more pleasure?

After all, isn't that one of the main purposes of having sex?

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Reich believed that body armor could not be dissolved by Freud's "talking cure" alone. Physical methods also had to be employed to teach the self to respond to touch, to emotions, and to the complete surrender of the orgasm. It wasn't enough for the individual to understand the causes of his or her own neurosis. To get well, he or she must actually learn how to satisfy sexual needs.

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Body armor takes the forms of muscular rigidness, defensive postures, and an habitually deadened response to inner and outer sensation. Armor protects the fragile self, but exacts a terrible price: it cuts the individual off from the experience of pleasure.

IS THE BODY OBSOLETE?

STEPHANIE MILLS

Is the body obsolete? This is, literally, a senseless question, senseless and sinister. It pisses me off because if somebody in a lab is asking it, soon there will probably be billions of dollars of federal funny money spent to answer in the self-fulfilling affirmative.

One could try to answer part by body part: Is the nose obsolete? Has the asker lately savored the incomparable sweet perfume of an infant's scalp, the directive funk and tang of a lover's crotch, the fragrances of last year's half-decomposed beech and maple leaves intermingled with wild violets? Are hands, backs, tongues obsolete? Has the asker lately dug in a garden, ached from spading, clenched a fistful of freshly turned earth, or noticed that a vegetable's freshness is a tactile quality on the tongue more than a flavor, as in the ambrosia of potatoes uprooted moments before?

It takes a strange and foreign attitude to regard any living thing as unsatisfactory. They say that sociopaths — torturers and playground killers — are characterized by a blind spot, an inability to imagine that their victims' insides are real. Does the concept of bodily obsolescence bespeak a similar dispassion?

To me, bodies are impossibly wonderful, entirely elegant, even, strangely, in infirmity and old age. Indeed, bodies are holy, right down to the asshole, as Allen Ginsberg proclaimed. The body of any organism is perfect from its first moment to its last, a particular expresion of the total and local biology, most meaningful in context, interpenetrating with the world that brought it forth.

That the human body is not invincible or omnipotent seems to me to be highly desirable. Human consciousness is obviously too immature to function morally under either condition. Which is why the roboteers who would presume to direct evolution on a basis of mere ego are dangerous men.

The body is not obsolete: Certain manmade conditions are pernicious and must be reversed. The correct response to finding the mineshaft canary dead on the bottom of the cage is not to build a canary that can't be asphyxiated; the correct response is to return to the surface immediately and possibly even to seal up the mine.

Declaring the body obsolete is settling for less, not more. If we want a biological planet (and not everyone does, apparently), then we must honor and heed our own corporeal biology. It befalls us to be the chief canaries-in-the-mineshaft. A robotics that will allow us, by proxy, to splash blithely in toxic or radioactive substances will sever a feedback loop and help to diminish our perfectly sensible fear of these excrescences.

When you hear all the lofty civic talk about "Us" directing evolution, bear in mind that "Us" is the tall white guys with good teeth, the same crowd that for centuries has been dependent on the physical labor of wives, slaves, children, or laborers, proxy bodies regarded as being more dispensable than those of the father classes. An awful lot of overreaching was accomplished by these suffering proxies — cannon-fodder borne, looms tended, coal mined, rails laid, and towers flung up.

At this point the sad fact is, as J. Baldwin has argued, that people unwilling to take a turn at Chernobyl or Bhopal had damn well better endorse the use of high-tech, robotic surrogates to do the cleanup. Otherwise

From *Erotic by Nature* (reviewed on p. 59), by Hella Hammid. Poster available for $11.50 ppd. from Tree, P. O. Box 186, Topanga, CA 90290.

we'll be looking at the sort of future oppression detailed so vividly by Margaret Atwood in *The Handmaid's Tale*, wherein uppity feminist grandmas are condemned to shovel around in radioactive waste dumps until they sicken and die, to be replaced by other political or economic undesirables.

Let us not, however, make a virtue out of the necessity for a technofix.

Behind every anger there is a fear. Behind my anger with the radical materialism of these hypothesizers is the fear that once posed, the question of the body's obsolescence will be seen as relative. I think it would be safer to see it as absolute. Either the body is obsolete or the body is holy. Can't have it that the body is obsolete in certain cases and holy in others.

Our wisdom is founded in our flesh. It is generated by living tissue. Through embodiment, the Buddha was brought to awareness; Christ's incarnation sealed the saving sacrifice. And long before those enlightened self-abnegators, before it became a man's world, it was an Earth Mother. The primal memory and original fact of the human species is the awesome life-giving power of womb, vulva, and breasts, the sudden deluge of amniotic fluid followed shortly by the emergence of an entirely new Thou.

Is the body obsolete? is a jaded question best answered by well-placed lightning bolts, if wet chicks cracking their way out of eggs or the gnarled prolific hands of an aging Monet or Renoir don't do the trick. ■

A former CQ *editor, Stephanie Mills is now a bioregional activist living in rural Michigan. She is well known for her work and writings on population control and the environmental movement. Her book,* Whatever Happened to Ecology?, *will be available this fall from Sierra Club Books.*

—Jeanne Carstensen

IS THE BODY OBSOLETE?

ERIC DREXLER

As technology advances and people gain a better understanding of complex systems, I feel the differences between living systems and wonderfully complex artificial systems will start to seem like a distinction that doesn't have much consequence. Nanotechnology will enable people to restructure their bodies, if they wish to. My perspective is that any technology that gives people what they want from medicine, which is to establish a state of health, is going to give people the potential for extremely powerful control over their bodies.

Today, artificial organs are uniformly inferior in performance to natural organs. No sensible person would get an artificial heart unless the alternative were death, and even then it would be a questionable decision. While one wouldn't want to do anything as gross, perhaps, as just going in and replacing organs, one can certainly imagine a medical technology based on nanotechnology which would allow one to improve one's physiological systems so that they worked better than before.

The human body is a product of evolution. The history of life on this planet shows very strongly that products of evolution can endure for ages. History also shows us that every organism we've seen so far can be improved on. But improving something, making modifications and extensions, doesn't necessarily mean replacing it. My hope is that we can have a future where what people do with their bodies is a matter of personal choice. ■

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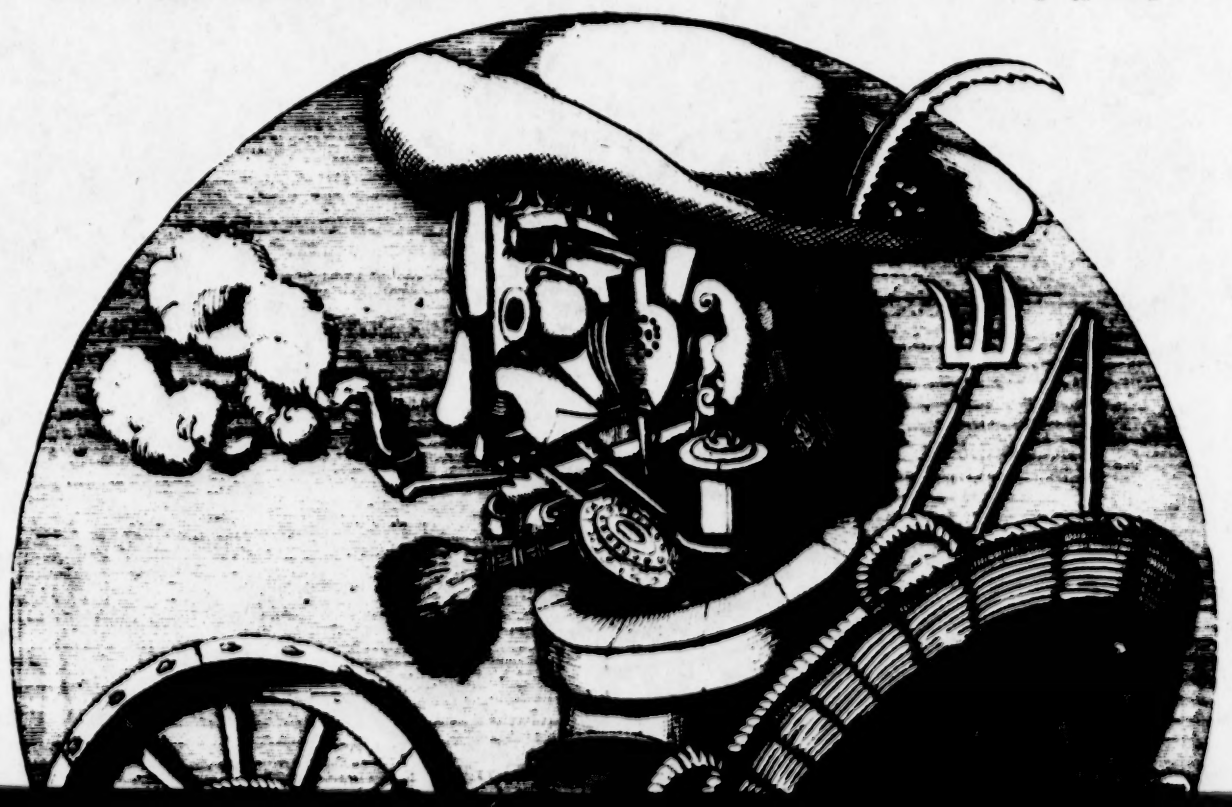
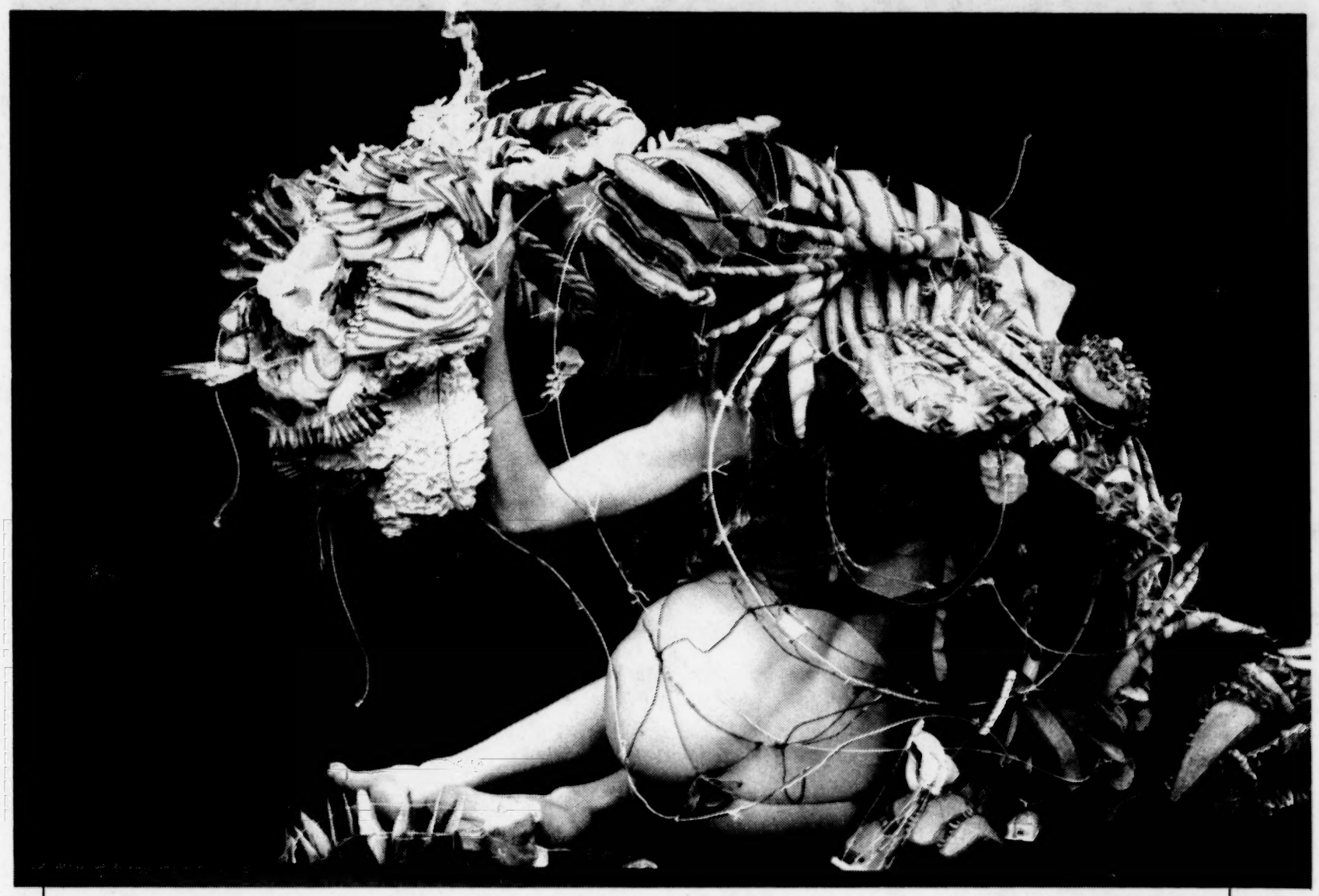
*Eric Drexler is a pioneer in nanotechnology research. The word "nanotechnology" refers to tiny, molecule-size machines capable of restructuring any piece of matter, including the human body. Doctor Drexler also heads the Foresight Institute (*SIGNAL, *p. 207), a clearinghouse for data about nanotech research.*

—Richard Kadrey



The Domesticated Man (17th century)



Albert Hollander

IS THE BODY OBSOLETE?

SHA SHA HIGBY

Will the human body evolve into robots? I doubt it. I am sure the askers of that question want to shed their bodies and fly. (I shed, too.) Electronics are intricate and float above the ground in contrast to the earthiness and weight of our bodies that root us to the earth and connect us to the internal sphere. We are like a revolving cone-tree in the cosmos. "High-tech" is only one of the elements of our environment we need to survive — remember earth, air, fire, and water.

I'm sure the consumer electronics industry will try its hardest to get us to buy little and big things to make us feel dependent upon, to give us a sense that we are slowly replacing ourselves. Accessories for these contrivances will be continuously developed, and if we have the money we are game to swallow them because they are like new toys. Lust for new toys leads us into distant but present fantasies because we love to fly. I do wish, however, that each new invention be tested for its ecological toxicity and, perhaps, be biodegradable in 50 years or so.

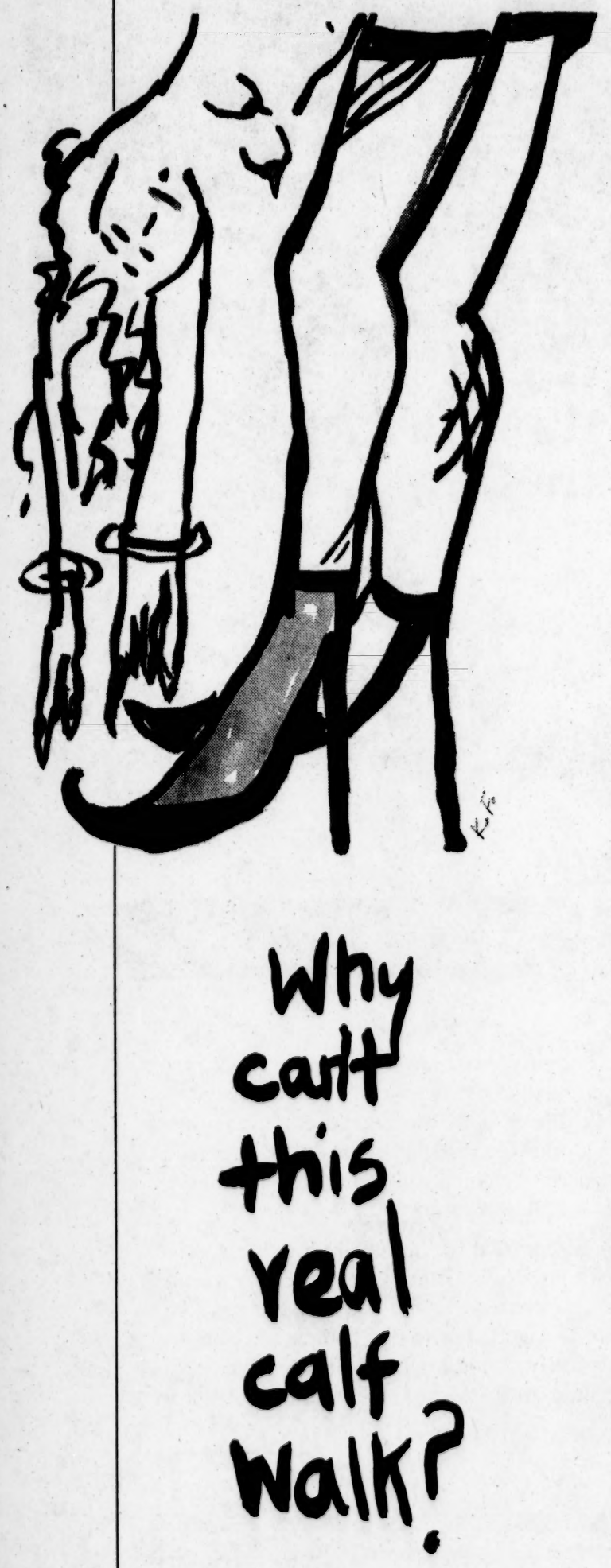
How can I be part of both worlds at once? Participate in this approaching new world, and still safekeep the physical earthiness of my situation that is maneuvering this blood-filled vehicle that is my body mixed and composed of elements of the earth? "Earth, oh, earth, let me dissolve into you."

I am looking forward to the blending of high technology with physical spiritual development so we can rediscover how extensive and intricate the spirit is. So we can fly together with our bodies, the harmonious instrument of nature that we are. We were beautifully created and designed. We already can fly. ■

Sha Sha Higby is a performance artist whose primary canvas is her body and her environment. She usually performs in natural settings, creating elaborate and mysterious rituals using the mask and costume techniques she learned while studying in Indonesia. —*Richard Kadrey*

IS THE BODY OBSOLETE?

KAREN FINLEY



You sold my soul before I could speak.
Raped by an Uncle at 8
Known addiction all my lives
let me dance for you
my daddy was a preacher
preach the bible
beat my mama –
I sell my babies.
I sell my bodies.

To keep 'em from stealing the women had to strip and had to work naked –
It looks bad but to me it looks normal.

Why can't this veal calf walk?
cause she's kept in a wooden box that she can't turn around in.
She's fed some anti-biotic laced formula – and she sleeps in her own diarrhea –
chained in a darkened building – immobilized and sick –
and then we kill her and eat her.

Him hurting me is not my fault.
Your hurting me is not my fault.

After I was raped by my doctor –
I didn't want to be close to anyone.
I cut off my hair –
I cut off my breasts
I cut off my hips
I cut off my buttocks.
Nothing revealing, nothing tight
neutered.
You say I got what I deserved.
I let the doctor examine my crotch.
My legs were in the stirrups pinned down.
And you gave me a shot –
I couldn't see you but I could feel you. I couldn't do nothing.
Everyone always told me I couldn't do nothing my whole life.
Just seeing the veal calf now.

Everyone says I deserved it –
I'm a hussy. I'm a tramp.
I'm a whore –
cause I wear lipstick?
work at night?
and drink bourbon straight?
I'm a preacher girl
Daddy, teach me right.

When I said NO
you didn't listen to me.
When I said NO
You fucked me anyway.
When I said NO
I meant NO
When I said NO
I wasn't playing hard to get.
And I never meant yes.
You raped me.
I took a shower, a hot one.
but I couldn't get clean
his sweat his semen
his skin smells near
another bath another shower
my whole body was covered with hickey –
I just cried – I just cried.
When I reported it

Policeman said "Hey Slut, you led him on."
The doctor cleaned me up, stuffed me with gauze –
bled 3 days with the morning after pill
And when they returned my empty wallet
Mr. Policeman said "If you don't suck me I'll blow your brains out – "

Get me used to it! Get me used to it!
But I can't. I want something better for my sisters my daughters.
And everyday I hear them laughing at me from street corners. Sizing me up.
They don't say it though
when I walk down the street with a man
cause then I'm "his" property.
And the men folk say as I pass:
"I prefer small women."
"I like to dominate women."
"I enjoy the conquest of sex."
"Some women are asking for it."
"I get excited when a woman struggles."
"I'd like to make it with her."
"I hope I score tonight."

And when the last man said his violence –
I knew I couldn't do anything to them so I'd do something to me –
I went and took a knife and I cut out my hole
but it just became a bigger hole –
and all the men just laughed and said "she's too big now." And I felt relief
but instead they said "we can all fuck her at the same time" –
But I was bleeding so they let me alone –
men don't touch women so much when they bleed –
it's unclean – unless, of course, they cause the bleeding.
And then I hoped I would die but of course I didn't.
I heard a sound, a whimper
and realized I was in the same room as the veal calf –
And veal calf walked over to me.
Veal calf limps. Veal calf stinks.
And I looked into veal calf's eyes – and I knew veal calf's story.
And said I was sorry for her.
And she said I got to keep trying –
and she asked why I was there too.
And I spoke my story.

And when the big man like a big daddy like a big uncle, big uncle who I loved – when the cop, the teacher, the country doctor, the date, the neighbor, the authority man who I trusted and respected – visited me in my own bed, broke into my own house, lived with me, in my own street in my own car, – looked at me, grabbed me, mangled and hurt me, slapped me and pushed me, touched my privacy, destroyed my feminine instinct, entered and took and hurt and screams and bruises – new colours on my skin.
When I see a rainbow in the sky I only see an angel being raped.

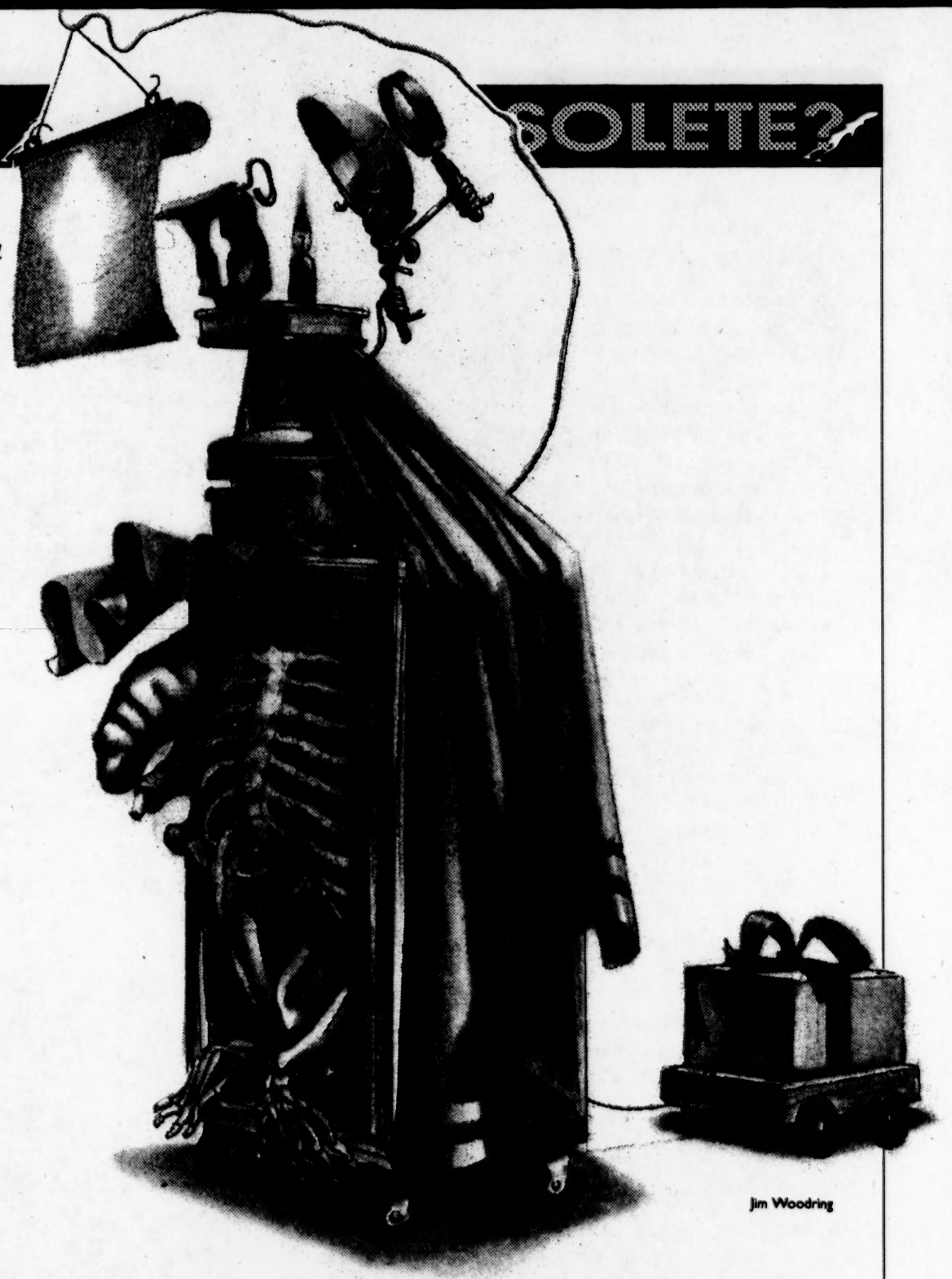
When I said NO I meant NO
But you did it anyway
When you were gone your body – your stank stayed.
Tried to wash you wash you off of me my body my skin
in me in me in me.
wash it off of me still not gone – scrub it off – burn you off of me –
try to kill me – I don't like me – cause I smell like you.

I'm hurt abused. I slice me.
I burn me. I hit me. I want this body to die. I want to be old and undesired –
I want my body back.
I want my personhood back.
Society, Culture and History
Media, Entertainment and Art.
I'm more than a hole.
But you hate us for we can have babies and you can't.
I'm more than a hole.
But you envy us for we can have children that love us unquestionably.
I'm more than a set of tits.
And if I don't have the right size for you
I'm never enough for you.
So, we make implants and surgery just for you.
We create a woman that never existed.
It's survival of the species.
And I'm more than a pair of legs –
but if they don't do more than walk
I'm a dog.
If I nurse my babies and my tits sag
I'm told you won't desire me.
You can't be a mother and a whore –
No one loves a smart woman.
I'm more than a piece of ass,
a good fuck and lay.
For the woman – our society only relates and
values you to your desirability.
The Woman As Private Property. ■

Karen Finley is known to many people as a performance artist, but she is also a playwright, painter, and musician. She often writes and performs works depicting the power struggles between men and women, and women's often-embattled place in society. —*Richard Kadrey*

IS THE BODY OBSOLETE?

BRUCE STERLING



Jim Woodring

Let's talk about YOUR body. Let's assume you're over twenty-five. If so, you are living right now in a no-kidding "obsolescing body": your flesh is in a slow process of decay. You can see it right now in the mirror, if you go and look. Sooner or later the whole mess will break down irrevocably, and you won't be here anymore. Your organism will no longer be sustainable. You'll be what used to be called "dead."

I hate to get teleogical about this, but it's hard to describe this set-up in any other way than as sleazy "planned obsolescence." The "reason" you're breaking down is so that your imperfect meat will vanish and make room for the next general release of the human DNA-software. (Hopefully, slightly improved DNA, since those of your generation with the most user-complaints were swiftly withdrawn from the marketplace.)

Death, in short, is just Evolution's way of killing you. This Rube Goldberg system has never struck any conscious human being as a fair deal. People have always tended to assume, and loudly proclaim, that the Universe should and must work otherwise. Heaven. Reincarnation. Whatever. Some kind of ontological safety-net to assure that our miraculous egos are not simply scrapped with the buzzard chow. (Maybe YOU believe this, in which case I must warn you that the rest of this is going to get even more offensive.)

Because we're now approaching the point where we can actually DO something about this situation. Potentially, a lot of things. Some of them, like the notion of downloading one's consciousness into a nice crisp pack of Euclidean microcircuitry, are theoretically possible, but so socially disruptive that they're very unlikely to see any practical application. The ability to scan and download a mere lab rat – or even a skin cell – would bring such a blizzard of medical tech-spinoffs that the structure of everyday life would be altered beyond recognition.

Besides, who the hell, besides some socially autistic techie in an ivory basement, would WANT to give up the human body? And more pragmatically, what kind of sucker would pay to have this done? Where would the GRANT MONEY come from? Real people don't want to transcend the physical plane to

live in some juiceless Platonic cyberspace; what they want is to live right here and now and be young and sexy and beautiful. For as long as posthumanly possible.

In the most likely scenario, the years to come will see us gradually learning to "hack" the human body. Imagine it as an attempt to meddle with a massively complex genetic information-processing system. Only this system is not programmed to run very well. It's "deliberately" programmed to crash, in a thousand different ways, and our mission is to stop that from happening (and killing us). Progress is likely to be slow, full of false leads, and very, very expensive.

But society already spends billions on "basic health research," and will spend more. After all, we're talking about matters of life and death here. The prospect of dying renders the rest of your business concerns pretty much moot. If someone comes to you with a tech-fix, you go for it. Even if it costs too much, hurts like hell, and doesn't work worth a damn, like the modern miracle of chemotherapy. What's the alternative?

Your body, after all, is already obsolete. Its natural condition (at least in terms of your personal purposes) is profoundly and innately non-functional. Once you have a true medical alternative, you must learn to think of the body, not as a natural "given," but as a very touchy, sensitive, bug-ridden, ultra-high-tech infrastructure.

You therefore plan a development strategy for your body. You buy a series of purported technical upgrades. Instead of waiting fatalistically for your body to Chernobyl, you engage in a frenetic engineering struggle to postpone, avert, and repair the damage.

And because your body is a complex system, radical inputs to the system will have some powerful and unpredictable repercussions: holistic, synergistic side-effects. Perhaps your teenage acne comes back. Perhaps your skin turns bright blue. Perhaps you come up with a form of senile dementia that has never existed before . . . well, these things happen.

The situation is not an engineer's abstraction or a techie power fantasy, it's real life. It's YOU, with your usual baggage of day-to-day squalor and confusion. It's "normality." Only you have to do things like watch the ancient and eldrich President of the United States, with his vast expensive Bethesda medical back-up team, getting a little younger and more vigorous every day. . . .

Chew on that thought for a while, and get the full flavor out of it. Because it's coming; or something that smells a lot like it. Once you finish handwaving in technolatrous glee, and siddown and shuddup and eat, that's the kind of morsel you'll find, on the end of every fork. ■

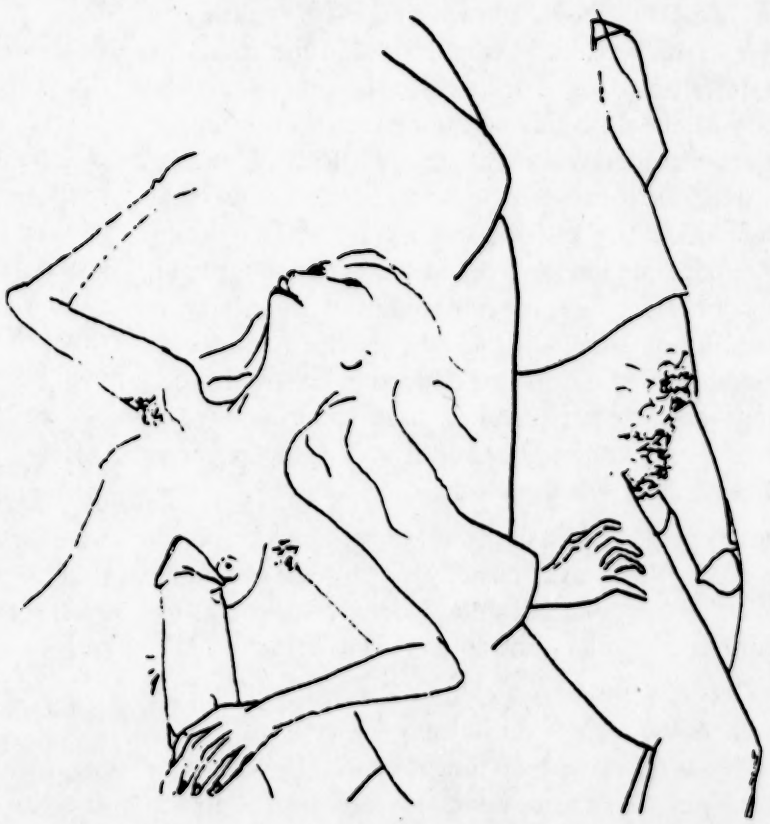
Bruce Sterling is one of the leading figures in cyberpunk, a science-fiction form which examines the increasingly intimate relationship of people and technology. His novel, Schismatrix, *is about a future where humanity is split into two warring camps: the Mechanists, whose bodies contain surgically implanted technology, and the Shapers, people who can control and modify their genetic structure.* —*Richard Kadrey*

IS THE BODY OBSOLETE?

KATHY ACKER

There's not much in this world I love, and among what I do and can love are my body and other people's bodies. I don't think I can even conceive of the body being obsolete unless I start thinking about suicide. ■

Kathy Acker is a poet, performer, screenwriter, novelist, and tattoo enthusiast. Her highly poetic and deconstructed novels contain sharp and savage writing about sex and sexuality. One of the main characters in her new novel from Grove Press, Empire of the Senseless, *is part woman and part robot.*
—*Richard Kadrey*



Kathy Acker

IS THE BODY OBSOLETE?

SUSAN GRIFFIN

Well, of course it would come to this. For centuries in this particular civilization, we have been behaving as if the body were obsolete. The Judeo-Christian ethic, especially after the Roman Empire became the Holy Roman Empire, categorizes bodily knowledge as evil. For over two millenia we have skated on the thin ice of a dangerous illusion: that spirit is excluded from matter.

The great Scientific Revolution of the late Renaissance might have broken through this illusion. But the "materialism" of the new science became, finally, as Gaston Bachelard has pointed out, an abstraction. Matter, stripped of immanent significance, became *the* object of study. If all human perception is inexorably linked to the world through bodily experience, this experience has been repudiated as existing somewhere outside the imaginary realm of objectivity. A more ancient form of knowledge, the Shaman's flight: the ability of the mind to enter the reality of other beings, and the participation that lies at the edge of Heisenberg's Principle, are oddly unaccounted for in this dogma of epistomology.

Not to speak of pleasure. Suffering. Human experience as epic, as tale, told by and through the body, tongue as language, flesh and bone as resonant instruments, cellular growth as narrative.

Because once one ignores the profundity of bodily presence (which is human experience), the body emerges as a tool with no intrinsic meaning of its own -- and perhaps therefore as an inferior design for certain grand intentions. Such as warfare. For this purpose a robot would certainly be superior.

I am thinking of Frederick the Great. How impressed he was by the picture of the universe as a great machine. How this picture inspired him to drill his armies in a series of repeated movements so that each soldier would become like a cog in the wheel. Habituated by constant practice, the soldier would learn to ignore the terror in his body, and march headlong into bullets.

Looking at the history of the repression and punishment of the body one encounters it again and again: the military endeavor, the designs of empire. In my book in progress, "The First and the Last: A Woman Thinks About Nuclear War," I explore the history of the holocaust (which is part of the history of nuclear weapons) by juxtaposing images of Heinrich Himmler's childhood with images from his considerable role in wartime atrocities. In his description, the massacre of six million Jews, gypsies, homosexuals, disabled persons, and political dissidents was a war waged against "the internal enemy."

Himmler was raised according to a pedagogy viewed as the pinnacle of civilized achievement in ethics and science, a manner of childrearing which above all subdued and punished the child's body in an attempt to sublimate that body to the will of the father.

And yes, the body which is part of the material of the universe does indeed have within it a knowledge of its essence, independent of ideology. It is a source of rebellious insight. (The intrinsic anatomy of the body — in particular the sexual body — lead St. Augustine to declare it sinful.) This autonomous body was systematically made obsolete for Himmler in the early years of his life, under his father's rule, and through Germany's methods of education. Later his own body and the bodies of others were to take him by surprise.

But we share this with Himmler: the body takes us, too, by surprise. We have hardly begun to discover this realm of ourselves, the infinite realities that lie within us, and outside the boundaries of authority. ■

Susan Griffin is a poet, playwright, and author of Woman and Nature *and* Pornography and Silence. *She has written extensively on the relationship between nature and culture in western history. Also see her article, "Heinrich Himmler: A Body of Authority," on p. 60 of this issue.* —*Jeanne Carstensen*

IS THE BODY OBSOLETE?

YAAKOV GARB

What do I make of the propositions which fill these pages? First I should remark on their deep entanglement with the web of oppositional categories which has upheld (indeed constituted) western thought. Body/mind; reason/emotion; earth/space; matter/spirit; immanence/transcendence; profanity/divinity; nature/culture; infancy/maturity; inferior/superior; impairment and infirmity/perfection; dependence, belonging, and need/independence, escape and self-sufficiency; limitation/freedom . . . (need I go on?). And of course that final fatal couplet which allows men to find an external bearer for all their disowned attributes: feminine/masculine. It is against this gender-valenced web of dualities that the drama of man trying to leave his body — both personal and planetary — is played out.

These dualities are old. Perhaps as old as the very word for "body," which, if we are to rely on Muller's etymology, is related to the German (and ultimately Latin and Greek) word for a tub, vat, or cask. Here already is an image of ourselves as an essence merely "contained" by an external vessel, or in John Donne's more elegant phrasing: "[bodies] are ours, though they are not we; we are/the intelligences, they the sphere." The artificial-intelligence crowd simply continues familiar illusions in more expensive and audacious forms.

At this point I won't even attempt to argue *within* this framework — to protest the ludicrous claim that mind can (never mind "should") have existence separate from the body — for it rests on false definitions of self, mind, thought, and just about everything else. (See, though, my review of Johnson's *The Body in the Mind*, p. 32). This and the whole ramified edifice of related dualities has been collapsing under the weight of its own contradictions for quite a while now. More fruitful, perhaps, is to wonder why this kind of illusion emerges with such urgency in these times: who holds these fantasies, and what is it about our political, social, cultural and environmental condition that allows (and funds) them to entertain these latest incarnations of the longing for individual and global disembodiment.

Why, for instance, are we so eager to disown the material substrates of our lives in a time when the fabric of our world — from soil to ozone layer — does actually feel like it is disintegrating? Why, as toxins and radiation trickle into the most fundamental recesses of our cells and ecosystems, is there such enthusiasm for self-sufficient space colonies, disembodied intellects, and cyborg futures? Why is etherealism so popular in a world where matter isn't? More eerily, how do the fantasies of disengagement from body and nature emerge from the same military/industrial complex which manufactures the technologies for the actual destruction of both?

And finally, consider all the other entailments of this hypothetical disembodiment. The attenuation — if not elimination — of emotions, for instance. ("Conceive yourself, if possible," suggests William James, "suddenly stripped of all the emotion with which your world so inspires you, and try to imagine it *as it exists*, purely by itself, without your favourable or unfavourable, hopeful or apprehensive comment. It would be almost impossible for you to realize such a condition of negativity and deadness. No one portion of the universe would then have importance beyond another; and the whole collection of its things and series of its events would be without significance, character, expression, or perspective.") Or consider the bypassing of the corporeal travail and limitation (not to mention the joys) which give form, substance, and depth to our souls? How, without the body's inevitable entanglements and waning, are we to mature — to grow wise and not just clever? ■

Yaakov Garb studies the role of emotion in the construction of scientific knowledge and perceptions of nature. He is a Ph.D. candidate at the University of California at Berkeley. He also teaches environmental perception each summer in Alaska.

—Jeanne Carstensen

"Resurrection" © 1988 by Irene Nicolas

IS THE BODY OBSOLETE?

WILLIAM BURROUGHS

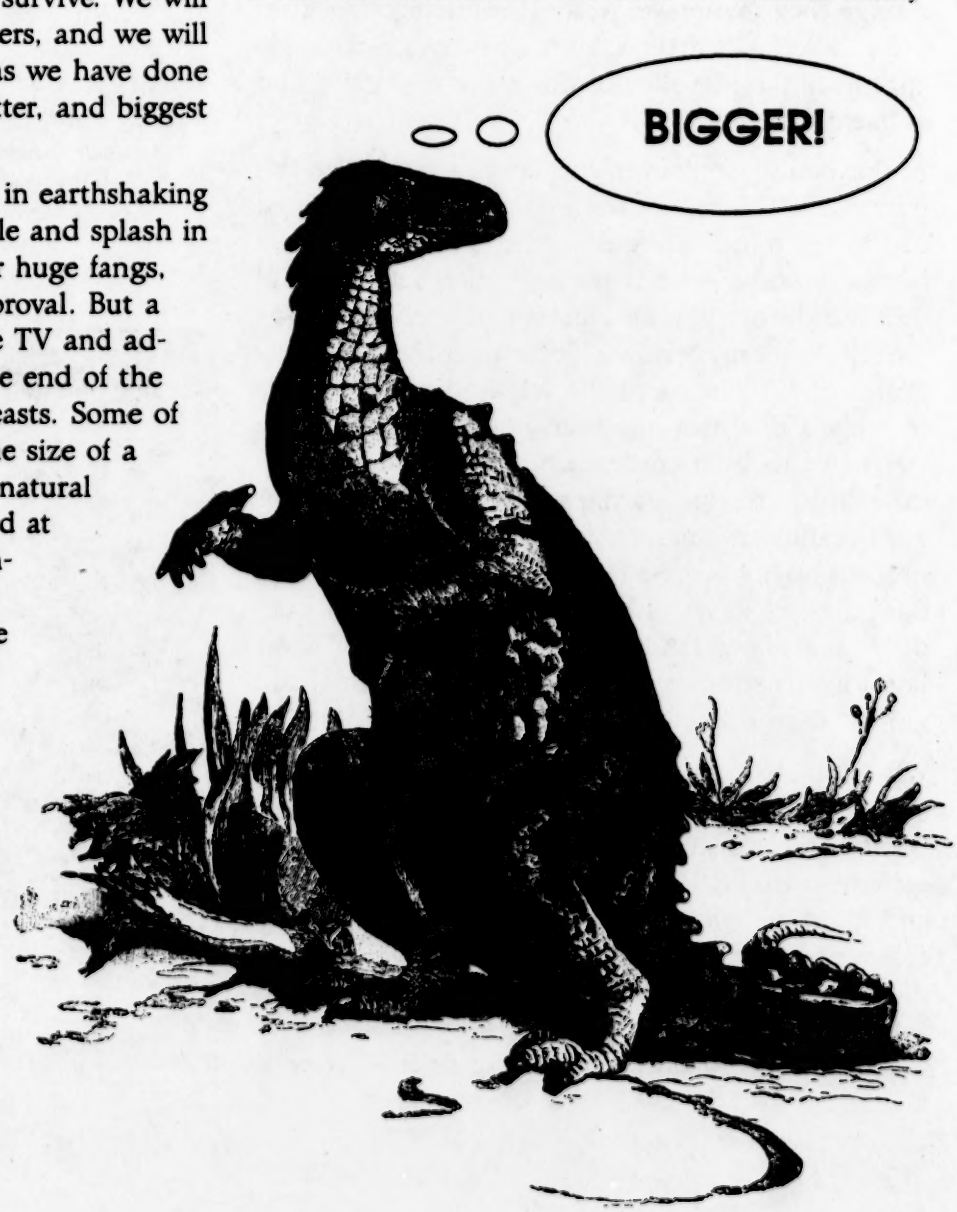
I think the political and social chaos we are seeing on every side reflects an underlying biological crisis. The end of the human line. All species are doomed from conception, like all individuals. Evolution did not come to a reverent halt with *homo sapiens*. An evolutionary step that involves biologic alterations is irreversible. We now must take such a step if we are to survive at all. And it had better be good. But at the present time this isn't even being considered: "Back to the church, the home, and the family. Back to the simple American virtues that made this country great and can make this country great again."

If I may be allowed a flight of whimsy involving articulate dinosaurs. A wise old dinosaur addresses a convocation of his tribe: "Fellow reptiles, I do not hesitate to tell you that we face grave problems. And I do not hesitate to tell you that we have the answer. *Size* is the answer! *Increased* size! There are those who say that size is not the answer. There are those who even propose that we pollute our pure reptilian strains with mammalian amalgamations and cross-breeding. And I say to you that if the only way I could survive was by mating with egg-eating rats, then I would choose not to survive. But we will survive. We will increase both in size and in numbers, and we will continue to dominate this planet as we have done for 300 million years. Bigger is better, and biggest is best!"

Armored models thump their tails in earthshaking applause. Herbivorous dines waddle and splash in swamp mud. Carnivores bare their huge fangs, dripping streamers of saliva in approval. But a wise old dine turns sadly from the TV and addresses his offspring: "Son, it's the end of the line. We are ugly idiot babbling beasts. Some of us are 60 feet long with a brain the size of a walnut. Where can this end? In a natural history museum, our bones gawked at by pimply adolescents. 'Say, I wonder how big his prick was?' Their turn will come." Back to the home and the family, back to simple American virtues, but biologically speaking, the one direction you can't go is back. It's the law. Dolphins lived on land at one time; we know that because they have air-breathing lungs. Now that they have returned to the sea, it might be handy to reclaim their lost gills.

We have the technology to recreate a flawed artifact, and to produce improved and variegated models of the body designed for space conditions. I have predicted that the transition from time into space will involve biologic alteration. Such alterations are already manifest. Astronauts stand to lose their bones and teeth in the service. *If you don't use it, you lose it.* A skeleton has no function in a weightless state. So what does the end result look like? Well, rather like an octopus or a jellyfish. Beau Brummel, the Restoration dandy, spent hours every morning putting exactly the right crease into his cravats by lowering his chin, just so. Often, his valet would carry out armfuls of crumpled linen. "Our failures." So we can imagine the cosmic butler carrying out bundles of unworkable monstrosities: our failures. ■

William Burroughs, author of the groundbreaking novel Naked Lunch *[Grove Press], has been called both a genius and a pornographer. Perhaps because of his fascination with medicine and mysticism (and his years as a drug addict), Burroughs has a keen interest in the workings of the human body. This piece is from the Giorno Poetry Systems* [EWEC *p. 343] record,* Better A New Demon Than An Old God. —Richard Kadrey



IS THE BODY OBSOLETE?

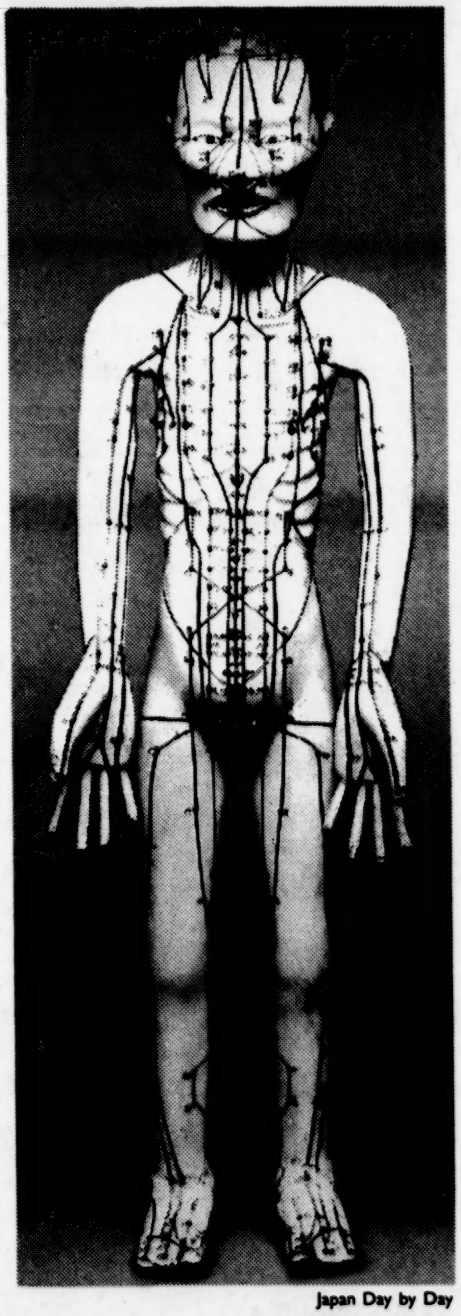
MICHAEL BLUMLEIN

What is mind? No matter.

What is matter? Never mind.

Fun, college-bred sophistry. Eventually settled by the dialecticians, who put down in books what clear-thinking folk had known all along. The truth is interaction. Is motion. Mind is body is mind is body. Look.

The brain is not a separate item. Sure, the biggest clump of neurons lies in the skull, but all up and down the spinal cord are bunches of nerves that poke into the heart, lungs, intestine, genitals. They splay out on these organs like tiny threads, sending messages, receiving. In and out of blood vessels, skin, hair. Little brains all over the body, some as small as two neurons. Respond to heat, pressure, the collision between molecules. Basic consciousness. Rudimentary, but consciousness.



Japan Day by Day

The body is not separate from the brain. The eye is a pouch of neural tissue. The nose, a cave to house the olfactory bulb. The hair cells of the inner ear become the cochlear nerve in a transition so smooth you hardly know it's happened. There are no road signs saying "Brain" and "Body." The distinctions to a large extent are arbitrary.

But people like to break things down. They like to put the pieces in boxes, make them neat and definable. It seems to simplify the world.

I wage my battles against this way of thinking. Patient after patient comes to me with the belief that a pill, or a shot, or a test will cure them of their sickness. Something I can do, a ministration to their body for which they need take no responsibility will bring them health. For some it is true but for most it is not. The common ailments — headaches, backaches, weight problems, high blood pressure, addiction — are the result of complex interactions between attitude, behavior and physical state. The body is not alien. The mind is a part. Ultimately, little can be done without a person's active participation in his care. Many people are not up to this. They find it hard, even shocking, to believe that they have control over their health. They bring me their bodies and expect to be cured.

These are the victims of the fractured world view, the spurious duality of mind/body. They have been led to believe that they are little more than a collection of parts to be serviced. Those who tout the body's obsolescence and glorify the race to build a separate, unencumbered mind only alienate these people further from themselves.

I try to teach them a different, more salubrious viewpoint. Show that their fears and preoccupations, their hungers and needs affect their bodily functions, just as the vicissitudes of their physical state affect their moods and emotions. Sometimes I cite studies. Other times I simply tell them there is a connection between what they think and feel and what becomes of their health. If a patient seems receptive, I use a more imaginative approach:

Fish have been around for 400 million years. Birds 300 million, mammals nearly 100 million. We human beings take up less than a thumbnail's height in this towering epoch of life on Earth. We're early forms, not yet fully evolved. We've only stood upright for a few million years, not nearly enough time to really get the hang of things. No wonder your back hurts, we should still be walking on all fours. You have a stomach ache? What do you expect, we haven't developed the enzymes to digest BHA, FD&C, TBHQ. Corns? Bunions? Don't worry, sooner or later those atavistic little toes of yours will disappear and the rest of your foot will adjust to shoes.

So relax. Don't be too hard on yourself. Get your mind and body talking, and who knows? Maybe it'll be just the nudge to make us all evolve a little quicker. ■

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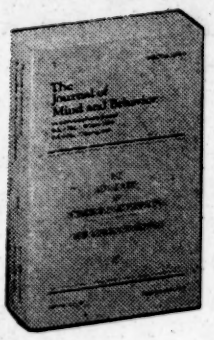
*Michael Blumlein is a practicing physician, the author of one novel (*The Movement of Mountains, *St. Martins Press) and numerous short stories. Much of Michael's fiction centers on the human body. By using his training as a doctor, he is able to voice the desires of both the world within the skin and the world without.* —*Richard Kadrey*

THE SEXUAL BODY

REVIEWED BY LORENZO MILAM



The Journal of Mind and Behavior
(Special Issue) Vol. 6, Nos. 1 and 2:
The Sexual Body
An Interdisciplinary Perspective
Arthur Efron, 1985; 314 pp.
$15 postpaid from:
The Institute of Mind and Behavior
Box 522, Village Station
New York, NY 10014
212/595-4853

I RECENTLY SAW a bumper sticker that said

GOOD CHRISTIANS DO IT
IN THE MISSIONARY POSITION

which may have been a put-on, but like all good bumper stickers, had enough truth in it to make it worth remembering.

Our society is coming to be torn apart by matters sexual. The Fundamentalists are convinced that Satan lives. Peter S. Williamson, of the Center for Pastoral Renewal, has recently written in *Christianity in Conflict* that the existence of Communism, humanism, abortions, "promiscuity, pornography, and perversion" are part of a to-the-death battle between Jesus and the Devil. Grown men — presumably adult males who pet their dogs and water their lawns (or water their dogs and pet their lawns) proclaim that Satan is physically present at this very moment, hiding behind the shirttails of people of naivete and tolerance. The nonvigilants, like you and me, who countenance and forgive sin so easily, are thus unwitting agents of the devil. Strange twisting of the Ten Commandments! Those of us who are tolerant and accepting are tools of Satan and the other Fallen Angels.

It is very much like the atmosphere of 1950-1960, the mad suspicion that Communists were behind every door, twisting and turning the unsuspecting and the innocent (like the ACLU, or people in the south who were battling for Civil Rights), sucking them in and using them for their own gains. The good guys become evil by proxy, for they are blind and naive and stupid, and the devil, and communism, are so potently seductive that our society, our freedom, the world as we know it is threatened — by one's very *tolerance*. The other face of this is that only the wary, the watchful, the suspicious, the humorless militants are the true patriots, or the Saved.

It is a pernicious argument, and it pops up quite regularly in the history of this and other democratic republics: Paris at the end of the 18th century was awash not only with blood, but with those who were convinced that their former allies from the streets were in secret communication with the aristocracy and the King of England. France then, as America now, fell into a universal schizophrenia with delusionary psychosis, one that would make Saint-Just say of his former co-revolutionary Danton: "Oh, evil citizen! You have been conspiring!"

There is a similar backwards revolution, an UN-sexual revolution, around us at this moment. It is regressive, and possibly dangerous. Jack Veasey, the editor of the gay publication *FirstHand*, says that when they have you so they can dictate your sexual freedom, they have the rest of you as well. It becomes a matter of sexual politics — and when our sexual freedoms fall, the other freedoms fall soon thereafter. In other words, give me their nuts, and their hearts and minds will follow.

Arthur Efron is a healthy (and hopeful) antidote to all this. What he has done in *The Sexual Body* is to take hundreds of research papers on children, men, women, homosexuals, paraplegics, mothers, babies — and put a new twist on them, so the facts of research that have been hiding out in countless scholarly papers are suddenly seen in a new light. For example, there is the very concept of "The Sexual Body":

> The term "the sexual body" is a deliberately chosen one. There may come a day when such a term is in fact a redundancy, when it will be no more than a synonym for "the human body." At present, however, the term is needed. . . . The term is chosen to prevent the elision, pervasive in most disciplines (indeed within most forms of thought) in contemporary culture, of the whole topic of the sexual.

Writer and radio enthusiast Lorenzo Milam was instrumental in setting up many listener-sponsored radio stations. His classic book Sex and Broadcasting *(WER #62, p. 110) tells of the methods and passions of those early days of community radio. He also wrote* The Cripple Liberation Front Marching Band Blues *(CQ #42, p. 13) and is a frequent contributor to* The Sun *and* Fessenden Review.
—Jeanne Carstensen

Charlie Clark (from *Erotic by Nature*)

Efron asserts that it was Wilhelm Reich who first propounded the notion of a "sexual body," and theorized that a substance called Orgone, not dissimliar from Freud's libido, was the stuff that made this sexual body work, "instinctual, sexual energy." This, according to the editor, implied a heavy critique of culture — "insofar as culture has encouraged or even demanded the development of libido be subjected to repression. . . . " He suggests that Reich's views were so radical that he came to be hounded by the Mayo Clinic, the Attorney General, the American Psychoanalytic Society, and the Postal Service. There was a bookburning — a real live bookburning, with matches, fire, and Reich's books — in 1957. He had been sent to jail shortly before for selling something called "The Orgone Box" and he died in the same year as the *livre de fe.*

A WORK LIKE *The Sexual Body* is rich, novel, and revolutionary because it views so many of the problems, problems sexual (teenage pregnancies, abortions, child abuse, violence) as a function of our denying the existence of a body which is sexual, which forces us to work in classically tragic terms — that being the tragedy which creates tragedy. (Oedipus was tragic only partially because he murdered his father and screwed his mother; his was a tragic life because he *demanded* to know the story. He hauled counselors, shepherds, his mother before him and cross-examined them. He *had to see* — and once he saw, he had to blind himself). The tragedy of Reich is of the same order — he saw something that the rest of society refused to acknowledge and, according to Efron, suffered for it.

Efron says that it is time for a revolution in our view of sexuality, which sounds old hat, but which might well be worth considering, given The New Morality and The New Puritanism. *The Sexual Body* is not terribly well organized, and it comes to no real resounding conclusion. Rather, it summarizes several hundred research projects — mostly on sexuality; research projects which confound our standard beliefs about, say, nursing mothers, abused children, neurotic homosexuals. In this very contrariness, something else emerges, something that might well be termed "The Sexual Body."

MARSHALL McLUHAN protested vigorously that he was not really stating anything new, but rather integrating old information in a new fashion. It was almost precisely the same statement made by Charles Reich when he published his briefly famous *The Greening of America*, which described, in poetic detail, the nature of the young in the sixties. Efron has made no such overt statement — but it is entirely possible that by his drawing together such disparate research projects from all over, he has created as important and seminal a work as *The Greening of America, Understanding Media*, or *Sexual Behavior in the Human Male.*

Efron's work is difficult to put down — despite many citations and footnotes getting in the way of the flow. Among controversial, startling subjects, he analyzes the proven sexual experience of uterine contractions in breast-feeding mothers (which alarms not a few mothers) and suggests that this may be a function of the interchange of the orgone energy between mother and child. See now why they stuck Reich away? Efron possibly should be concerned that the American Psychoanalytic Association might still have those matches ready, left over from 1957, ready to go to work on *The Journal of Mind and Behavior.* ■

The Journal of Mind And Behavior *is a quarterly publication which can be ordered ($35/year) through The Institute of Mind and Behavior, P. O. Box 522, Village Station, New York, NY 10014; 212/595-4853.*

The History of Sexuality

In his earlier studies of prisons, mental institutions, medical clinics, and universities, Foucault brought the body into the center of intellectual discourse, demonstrating that the control of the body is essential to the shapes of power and knowledge in those institutions. In his major work, whose completion was interrupted by his tragic death of AIDS in 1984, Foucault planned to trace the historical evolution of the concept of "sex" from the period of classical Greece to the present. His aim was "to show how deployments of power are directly connected to the body — to bodies, functions, physiological processes, sensations, and pleasures . . . I do not envisage a 'history of mentalities' that would take account of bodies only through the manner in which they have been perceived and given meaning and value; but a 'history of bodies' and the manner in which what is most material and most vital in them has been invested."

The first volume, which gives an overall view of his earlier work as well as his analysis of sex, has had as much influence on my own thinking and work as any book I've read in the past decade. Volumes II and III carry his method into an analysis of early Greco-Roman and Christian texts about sexuality and the creation of the self. The material for his analysis is the ubiquitous production of discourses about sex: classical philosophers, priests, physicians, and psychiatrists incessantly inquiring about it; widespread strategies to stop infants and children from masturbating; debates about the moral and legal definitions of what kinds of activity are "perverse"; political analysis about how to control population; and the constant efforts to control women's bodies. In addition, he demonstrates the importance of the cultivation of the body (through manners, exercise, dance, sport, etc.) for the anchoring of social privilege. He ruthlessly exposes the illusion that our century is blessed with a utopian vision of the importance of the body and of sexual liberation. At the end of the century initiated by Freud's sexual utopianism, Foucault's work, like his death, is a sobering challenge to puzzle more deeply than ever before about how the body and its pleasures figure in our liberation.

—Don Hanlon Johnson

The History of Sexuality
Michel Foucault, 1978, 1985, 1986.
Vol. I: *An Introduction* **$5.95**
Vol. II: *The Use of Pleasure* **$6.95**
Vol. III: *The Care of the Self* **$8.95**

All postpaid from Random House
Attn.: Order Dept.
400 Hahn Road, Westminster, MD
21157; 800/638-6460
(or Whole Earth Access).

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The medical examination, the psychiatric investigation, the pedagogical report, and family controls may have the overall and apparent objective of saying no to all wayward or unproductive sexualities, but the fact is that they function as mechanisms with a double impetus: pleasure and power. The pleasure that comes of exercising a power that questions, monitors, watches, spies, searches out, palpates, brings to light; and on the other hand, the pleasure that kindles at having to evade this power, flee from it, fool it, or travesty it. The power that lets itself be invaded by the pleasure it is pursuing; and opposite it, power asserting itself in the pleasure of showing off, scandalizing, or resisting. Capture and seduction, confrontation and mutual reinforcement; parents and children, adults and adolescents, educator and students, doctors and patients, the psychiatrist with his hysteric and his perverts, all have played this game continually since the nineteenth century. These attractions, these evasions, these circular incitements have traced across bodies and sexes, not boundaries to be crossed, but *perpetual spirals of power and pleasure.* *—Vol. I*

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By creating the imaginary element that is "sex," the deployment of sexuality established one of its most essential internal operating principles: the desire for sex — the desire to have it, to have access to it, to discover it, to liberate it, to articulate it in discourse, to formulate it in truth. It constituted "sex" itself as something desirable. And it is this desirability of sex that attaches each one of us to the injunction to know it, to reveal its law and its power; it is this desirability that makes us think we are affirming the rights of our sex against all power, when in fact we are fastened to the deployment of sexuality that has lifted up from deep within us a sort of mirage in which we think we see ourselves reflected — the dark shimmer of sex. *—Vol. I*

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One has to bear in mind, first, that the principles of sexual austerity were not defined for the first time in the philosophy of the imperial epoch. We have encountered in Greek thought of the fourth century B.C. formulations that were not much less demanding. After all, as we have seen, the sexual act appears to have been regarded for a very long time as dangerous, difficult to master, and costly; a precise calculation of its acceptable practice and its inclusion in a careful regimen had been required for quite some time. Plato, Isocrates, and Aristotle recommended, each in his own way, at least some forms of conjugal fidelity. And the love of boys could be held in the highest esteem. But the practice of abstention was demanded of it as well, so that it might preserve the spiritual value expected of it. Hence a very long time had passed during which concern for the body and for health, the relation to wives and to marriage, and the relationship with boys had been motifs for the elaboration of a severe ethics.

—Vol. III

The Sexuality Library

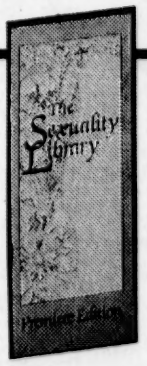
One of the most delicate and potentially embarrassing situations I dealt with as a long-time bookseller was that of helping a customer choose appropriate books on sexuality.

Acutely aware of this, and of the need for access to better sex education for all — children to older adults, gays, straights, and bisexuals — sex educator Joani Blank (owner of Good Vibrations, EWEC *p. 231) has come up with a simple solution.*

The Sexuality Library offers a mail-order service of sexual self-help books thoughtfully (and with obvious love) selected by a panel of sex educators and Good Vibrations customers and staff. You won't find books specifically on AIDS or other sexually transmitted diseases, contraception, sexual abuse, or reproduction (though many books do cover these issues in part). And this for reasons they freely admit. One, they didn't want to " . . . *bite off more than [they] could chew," and two, "Although we understand the problems, turmoil and pain that are associated with sex for so many today, we still see the pleasure, joy and happiness that our sexuality holds. Therefore, we have dedicated The Sexuality Library to the positive side of sex."*

They have succeeded marvelously in this first effort. The catalog is a joy to peruse, and educates merely by exposing one to different aspects of sexuality.

—Candida Kutz



The Sexuality Library
Catalog
$1 from:
The Sexuality Library
3385 22nd Street
San Francisco, CA 94110;
415/550-0912

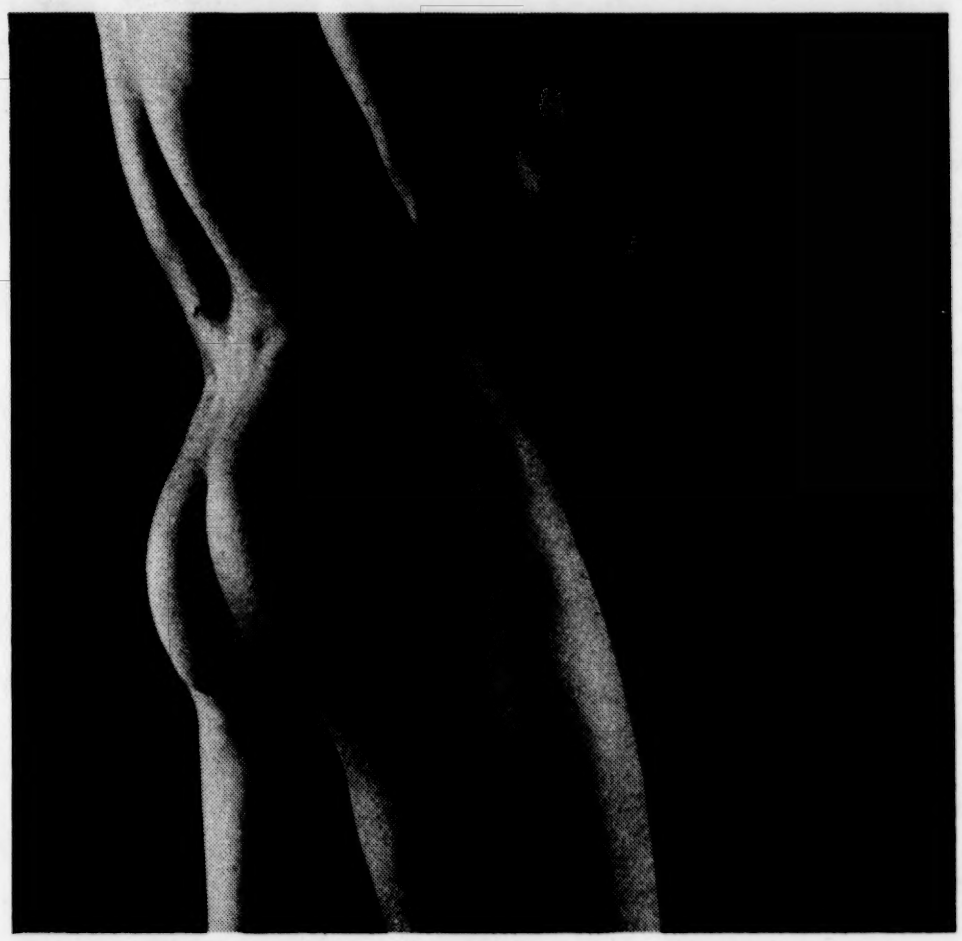
Erotic by Nature

Pornography is criticized as violent, demeaning, and spiritually injurious. But worse can be said: it usually isn't even a turn-on. Like processed food, it's a parody of the real thing — long on packaging and short on nutrition. Who has ever wanted to make it with Betty Crocker?

This book is sexually nutritious. The real thing is down-home fun. Threescore well-credentialed contributors, including Antler, Betty Dodson, Deena Metzger, Lenore Kandel, and Ron Rafaelli, offer 212 pages of luscious prose, poetry, and photos of women and men in panoramic combination and innocuous enjoyment.

—Jeffrey H. Kane, M.D.

Erotic by Nature
David Steinberg, Editor
1988; 212 pp.
$35 ($38.50 postpaid) from:
Shakti Press/Red Alder Books
P. O. Box 2249, Berkeley, CA 94702
(or Whole Earth Access).



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Nipples and cocks
nipples and cocks
Nothing tickles the palate like
nipples and cocks

Lose your appetite for
clippers and clocks
by trying a tipple of
nipples and cocks

Up with your T shirts
Down with your jocks
Tempt your taste buds with
nipples and cocks

Don't riddle your brow
or rot in your box
It's nicer to nibble on
nipples and cocks

No need to be fancy
or unorthodox
Just try a plain diet of
nipples and cocks

Nipples and cocks
nipples and cocks
Nothing tickles the palate like
nipples and cocks

—James Broughton

Multi-Focus

An amazing mail-order source for videos, films, slides, and filmstrips exploring all types of sexuality: gay, straight, and bi. Programs are arranged by topics such as "Youth, Teenage Sexuality," "Incest," "AIDS and STDs," "Sex and Disability," "Multiple Partners," and "Abortion." Besides presenting a wide range of sex information, Multi-Focus features the work of such noted filmmakers as James Broughton, including his award-winning film, The Bed. *Some of the programs contain nudity and sexual activity; those that do are clearly marked.*

Seeing the Multi-Focus catalog makes me very happy. The revisionist history that has taken hold in the last eight years, stating that the sexual explorations of the sixties and seventies were not only failures but wrong from the start, is leading us to a dark place where intimacy is the greatest danger and ultimate sin. By unselfconsciously presenting such a wide range of sexual information, Multi-Focus is working against the pressures designed to keep people apart.

Multi-Focus's programs are expensive, so you may want to ask your local library to stock them. (In fact, demand it.)

—Richard Kadrey

■ NORMA AND TONY: FOLLOWING SAFER SEX GUIDELINES

1985 by Laird Sutton, National Sex Forum, Sexologists' Sexual Health Project. 30 mins; video only; college-adult
PROGRAM #315
Specifically created to graphically illustrate safer sex guidelines. Two friends meet and discuss their interest in a sexual relationship, AIDS, and how they can enjoy sexual intimacy without putting their health at risk. They spend a gently paced afternoon experimenting with condoms, latex squares, lotions and other protective products. Norma & Tony provide excellent role models, illustrating open communication skills and sexual hygiene techniques. EXPLICIT.
Video Purchase 150.00
Video Rental 25.00

■ HUMAN SEXUALITY: THE LIFELONG EXPERIENCE

1982 by Sunburst Communications. 2 filmstrips, 2 cassettes, facilitator's guide; jr. high-adult
PROGRAM #509
Part 1: From Birth to Old Age - Describes how sexuality involves our deepest feelings and attitudes about ourselves as well as physical feelings. Differentiates sexuality from sex. Distinguishes between the sexual response and reproductive systems. Deals with anxieties teens may have about physical and emotional changes during puberty.
Part 2: Expressions of Sexuality - Explores the many ways people choose to express their sexuality. Urges young people to decide carefully what kind of sexual person they want to be.
Filmstrip Purchase 100.00
Filmstrip Rental 25.00

Multi-Focus
Catalog **free** from Multi-Focus, Inc.,
1525 Franklin Street, San Francisco,
CA 94109; 415/673-5100.

HEINRICH HIMMLER: A Body of Authority

BY SUSAN GRIFFIN

IT IS 1925. Heinrich Himmler, who is now twenty-five years old, has been hired as a secretary by the chief of the Nazi Party in Landshut. He sits behind a small desk in a room overcrowded with party records, correspondence and newspaper files. On the wall facing him he can see a portrait of Adolf Hitler. He hopes one day to meet the Fuhrer. In anticipation of that day, while he believes no one watches, he practices speaking to this portrait.

It is 1922. Heinrich visits friends who have a three-year-old child. Before going to bed this child is allowed to run about naked. And this disturbs Heinrich. He writes in his diary, *One should teach a child a sense of shame.*

It is the summer of 1910. Heinrich begins his first diary. He is ten years old. He has just completed elementary school. His father tells him his childhood is over now. In the fall he will enter Wilhelms Gymnasium. There the grades he earns will determine his prospects for the future. From now on he must learn to take himself seriously.

His father Gebhard is a schoolmaster. He knows the requirements. He himself is a faithful keeper of diaries. He provides the boy with pen and ink. Gebhard was once a tutor for Prince Heinrich of Wittelsbach. He has named his son Heinrich after this prince. (Gebhard was grateful that the prince consented to be Heinrich's godparent.) Heinrich is to write in his diary every day. Gebhard writes the first entry in his son's diary, to show the boy how it is to be done.

> *July 13 Departed at 11:50 and arrive safely on the bus in L. We have a very pretty house. In the afternoon we drink coffee at the coffeehouse.*

It is 1910. The 22nd of July. Gebhard adds the words *first swim* to his son's brief entry, *Thirteenth wedding anniversary of my dear parents.* 1911. Over several entries Heinrich lists each of thirty-seven times he takes a swim, in chronological order. *11:37 am Departed for Lindau.* He does not write of his feelings. *August 8, Walk in the park.* Or dreams. *August 10, Bad weather.*

In the last few years I have been searching, though for what precisely I cannot say. Something still hidden which lies in the direction of Heinrich Himmler's life. I have been to Berlin and Munich on this search, and I have walked over the gravel at Dachau. Now as I sit here I read once again the fragments from Heinrich's boyhood diary that exist in English. I have begun to think about these words as ciphers. I repeat them to myself hoping to find a door into the mind of this man, even as his character first forms, so that I might learn how it is he becomes himself.

This task is not easy. The doors are always shut. The earliest entries in this diary betray so little. Like the words of a schoolboy commanded to write what the teacher requires of him, they are wooden and stiff. The stamp of his father's character is so heavy on this language that I catch not even a breath of self here. It is easy to see how this would be true. One has simply to imagine Gebhard standing behind Heinrich, tapping his foot. Did Gebhard lay his hand on Heinrich's shoulder? The weight of that hand would not be comforting. It would be a warning. A reminder. Heinrich must straighten up now and be still. Yet perhaps he turns his head. Maybe there is a sound outside. A bird. Or his brother Gebhard's voice. But from the dark form behind him he hears a name pronounced. This is his name, *Heinrich.* The sound rolls sharply off his father's tongue. He turns his head back. He does not know what to write. He wants to turn to this form and beseech him, but this man who is his father is more silent than stone. And now when Hein-

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Susan Griffin, who has written about the consequences of separating spirit from matter in her books Woman and Nature *and* Pornography and Silence, *here turns to the life of Heinrich Himmler — who was the Reichsfuhrer SS and head of the Third Reich's system of concentration camps. Through extensive research and a willingness to identify with what was universally human in Himmler, Griffin has written a felt history, a history of Himmler's body and his impact on the bodies of millions.*

This article is excerpted from the holocaust chapter of her book-in-progress, The First and the Last: A Woman Thinks About Nuclear War. *It is stylistically quite different from the original chapter, which interweaves writing about the author's own family, the art of Kathe Kollwitz, the history of modern weaponry, and the stories of concentration-camp survivors with the writing on Himmler.* *Also see p. 52 for Susan Griffin's response to the question, "Is the body obsolete?".* *—Jeanne Carstensen*

(Left) Heinrich as a child, standing in front of his family. He is wearing a dress, customary for young boys at that time. Behind him are his older brother Gebhard, and his father and mother, Professor and Frau Himmler.

(Above) Professor and Frau Himmler after Heinrich had grown.

rich can feel impatience all around him, he wants to ask, *What should I write?* The edge of his father's voice has gotten sharper. *Why can't you remember?* Just write what happened yesterday. And make sure you get the date right. *Don't you remember?* We took a walk in the park together and we ran into the Duchess. Be certain you spell her name correctly. And look here, you must get the title right. That is extremely important. Cross it out. Do it again. *The title.*

The boy is relieved. His mind has not been working. His thoughts were like paralyzed limbs, immobile. Now he is in motion again. He writes the sentences as they are dictated to him. *The park.* He crosses out the name. He writes it again. Spelling it right. *The Duchess.* And his father makes one more correction. The boy has not put down the correct time for their walk in the park.

And who is the man that stands behind this boy? A photograph I have before me of the aging Professor and Frau Himmler, as they pose before a wall carefully composed with paintings and family portraits, Frau Himmler adorned with a demure lace collar, both she and the Professor smiling kindly from behind steel-rimmed glasses, the Professor somewhat rounded with age, in a dark three-piece suit and polka-dot tie, looks so ordinary.

Ordinary. What an astonishing array of images hide behind this word. The ordinary is of course never ordinary. I think of it now as a kind of mask, not an animated mask that expresses the essence of an inner truth, but a mask that falls like dead weight over the human face, making of flesh a stationary object. One has difficulty penetrating the heavy mask which Gebhard and his family wore, difficulty piercing through to the creatures behind.

It must not have been an easy task to create this mask. One detects the dimensions of the struggle from the advice of German child-rearing experts popular in the early years of this century. *Crush the will,* they write. *Establish dominance. Permit no disobedience. Suppress everything in the child.*

I have seen illustrations from the books of one of these experts. At first glance these pictures recall images of torture. But they are instead children whose posture or behavior are being corrected. A brace up the spine, a belt tied to the waist and the hair at the back of the neck so the child will be discouraged from slumping, a metal plate at the edge of a desk keeping the child from curling over her work, a child tied to a bed, to prevent poor sleeping posture, or masturbation.

The doctor who wrote these books recommended other methods in response to masturbation. An enema to be given before bedtime. The child immersed

in ice-cold water up to the hips, before sleep. That this doctor's son was hospitalized with disabling schizophrenia, or that another of his children committed suicide, was not taken as a warning against his philosophy of child-rearing. His methods were so much a part of the canon of everyday life in Germany that they were introduced into the state school system.

The nightmare image of a German childhood that one discovers in Dr. Schreber's philosophy immediately calls to mind the catastrophic events of German history, now just a few decades past. I first encountered this pedagogy in *For Your Own Good* by Alice Miller, where she writes, *Since the end of World War II, I have been haunted by the question of what could make a person conceive the plan of gassing millions of human beings to death.* The same connection between child-raising and the violence of recent history is made by Morton Schatzman in *Soul Murder,* his study of Dr. Schreber and his son.

Of course, one cannot give a single answer to such a monumental riddle. There is never a single cause to any event in history. Rather there is a field — like a field of gravity, created by the movements of many planetary bodies — that influences the path of each life, that in turn itself becomes an influence. Whatever is at one moment from one angle of vision a cause is at another moment an effect. And childhood experience is just one element in the determining field. Yet it is the beginning point of all our lives, and is as such a mirror of the whole field of cause and consequence. How does our sense of this field change when we consider the pain and privation of childhood, and, perhaps more important, why is it that until now we have chosen to ignore this point of origination, the birth place and womb of ourselves, in our consideration of history?

In the silence that reverberates around this question, an image is born in my mind. I can see a child's body, small, curled into itself, knees bent toward the chest, head bending softly into pillows and blankets, in a posture thought unhealthy by Dr. Schreber, hand raised to the face, delicate mouth making a circle around the thumb. There is such comfort in this image. It is a kind of self-portrait, drawn both from memory and from a feeling that is still inside me. As I dwell for a moment with this image I can imagine Heinrich in this posture, silent, curled, fetal, giving comfort to himself.

IN HEINRICH'S BOYHOOD diaries no one has been able to find any record of rage, nor of events that inspire such rage. Yet one cannot assume from this evidence that such did not exist. His father would no doubt have permitted neither rage, nor even the memory of rage, to enter these pages. That there must be no visible trace of resentment toward the parent, was the pedagogy of the age. Dr. Schreber believed that children should learn to be grateful for parental discipline. All the pain and humiliation they endure is meant to benefit them; according to this logic, the parent is trying to save the child's soul.

Now, for different reasons, I too find myself on the track of a child's soul. The dimensions of Heinrich Himmler's life have put me on this track. Where does the soul live and by what nourishment? This is a question unfamiliar to the modern mind. The soul has ceased to exist in our imagination. Dominated by a scientific idea that science itself has, in this century, repudiated, we still think of the mind as a kind of machine, a machine within the body which is another machine, itself within a larger machine, the universe. But now I find I need this word, the word "soul."

The religious tradition that shaped Heinrich's childhood argues that the soul is not part of flesh but is instead a prisoner of the body, and of earth. Dr. Schreber's pedagogy was built on this doctrine. It was assumed that a child's nature is bestial and must be reshaped in the image of the spirit. That the soul might be part of the very breath and come into being as part of the natural course of a child's growth was still a strange and heretical notion at the beginning of this century.

Suppose the soul is meant to live in and through the body and to know itself in the heart of earthly existence. What happens then when the body of the child is castigated and feelings are driven into hiding? Does the soul hide too? Once buried like a seed kept from the light, does the soul fail to grow? Perhaps it is in this precise moment, when the self meets the self and returns a gaze, that the soul is born.

The child, Dr. Schreber advises, *should be permeated by the impossibility of locking something in his heart.* This must have been so for Heinrich. No anger appears in his diaries. Yet the diaries themselves can be taken as a kind of metaphor, standing like the single column of a ruined building, like a column I saw in Berlin, which once belonged to the greatest synagogue of that city, and which still exists today even though the rest of that structure was destroyed on Krystallnacht. There is a kind of message in the silence of these diaries. Such a silence is the mark of a process begun early in childhood and continued throughout a life. There were to be no secrets kept from father.

But the story does not end there. Some memory of punishment still exists in Heinrich. And, perhaps, a sense of injustice. The small beginnings of a question. So an answer must be given.

Perhaps it is hewn out of the future. Certain aspects of Heinrich's life as a grown man can be understood as extended arguments against the memory of his childhood. *Protective custody,* Heinrich Himmler, the adult, was to argue when speaking of the arrests of Jews, *is an act of care.*

1918. Suddenly the war is over. Germany has lost.

Heinrich has failed to win his commission. He has not fought in a single battle. Prince Heinrich, his namesake, has died. The Prince will be posthumously decorated for heroism. Heinrich returns home, not an officer, nor even a soldier any longer. He returns to school, completing his studies at the Gymnasium. And then the University. But he is adrift. Purposeless. And, like the world he belongs to, dissatisfied. Neither man nor boy, he does not know any longer who he is.

I try to put myself in Heinrich's shoes and to imagine the void that must stretch out before him at this moment. Until now he could rely on a strict regimen provided by his father. Nothing was left uncertain or undefined for long in his father's house. The thoroughness of Gebhard's hold over his household comes alive for me through a single procedure from family life: Every package, letter or money order to pass through the door was, by Gebhard's command, duly recorded. I begin to grasp a sense of Gebhard's priorities when I read that Heinrich, on one of his leaves home during the war, assisted his mother in this task. The shadow of his father's habits stretch out over history. They fall over an office in Berlin through which the SS and the entire network of concentration camps are administered. Every single piece of paper issued by this office will pass over Heinrich's desk, and to each page he will add his own initials. Schedules for trains. Orders for building supplies. Adjustments in salaries. No detail will escape his surmise nor fail to be recorded.

Is it any wonder that he is so eager to join the army again? The army can give him a purpose and an order to his life. He will have a uniform again. He will know who he is. But his frailty haunts him. Over and over he shows up at recruiting stations throughout Bavaria only to be turned away each time, with the single word *Untaugliche.* Unfit. Not good enough. At night the echo of this word keeps him awake.

Lately I have come to believe that an as-yet-undiscovered human need, and even a property of matter, is the desire for revelation. The truth within us has a way of coming out despite all our conscious intentions to conceal it. What we do not acknowledge in ourselves asserts itself through the events of our lives and in this way tells the story we hide from ourselves. I cannot help but believe that Heinrich Himmler told such a story when, as Reichsfuhrer SS, he established certain standards for superiority that he himself could never meet. A sign of the Ubermensch, he said, was blondness, while he himself had dark hair. *I have refused to accept any man whose size was below six feet because I know only men of a certain size have the necessary quality of blood,* he declared while standing, five foot seven, at the podium. He was careful, he claimed, to weed out any applicants who showed traces of Mongolian ancestry since this was an inferior descent, ancestry he claimed he could see with

Heinrich (left) and Gebhard Jr. during World War I.

Selections from Heinrich Himmler's diaries:

Friday, 26.5.22. **Irmgard jumped around naked before going to bed. I don't think this is proper for a three-year-old at a time when one should teach a child a sense of shame. Went to bed about 10. Slept well.**

Saturday, 27.5.22. **Up at 7:30. Hugo had come in during the night. He was very nice and was very happy that I was there. Lots of consulting room business. His practice is very good. Friedl is extremely able and industrious both in the pharmacy and at doing the housework. Hitched up the horse about 10:00 and went with Hugo on his rounds. Irmgard also went along. It was uphill and downhill through the woods to Birkland. The villages around here . . .**

his own eyes. Those eyes, so narrow, gave clear evidence of just such ancestry. And then I can see him as a shadow cast into his own future, which is now our past, standing on a playing field in Berlin. He has broken out in a sweat. He has been trying once again to earn the Reichs Sportsbadge, an honor and a requirement which he himself established, but cannot fulfill. For three years he has exercised and practiced. Often he can lift the required weights, or run the required laps, but at every trial he fails to throw the discus far enough. His attempt is always a few centimeters short.

It is 1941. Heinrich Himmler is paying a visit to the Russian Front. He has been put in charge of organizing the Einsatzgruppen, moving groups of men who carry out the killing of civilians and partisans. He watches as a deep pit is dug by the captured men and women. Then, suddenly, a young man catches his eye. He is struck by some quality the man possesses. He takes a liking to him. He has the Commandant of the Einsatzgruppen bring the young man to him. *Who was your father?* he asks him. *Your mother? Your grandparents? Do you have at least one grandparent who was not Jewish?* He is trying to save the young man. But he answers *no* to all his questions. So Himmler, following strictly the letter of the law, watches as the young man is put to death.

The men, women and children are ordered then to remove their clothing. Naked, they stand before the pit they have dug. Some begin to cry or scream or even attempt escape. The young men in uniform place their rifles against their shoulders and fire into the naked bodies. These bodies do not fall silently. They cry out. They fall with open wounds. Their faces come apart. Their stomachs open up. They groan. Weep. Flutter. Open their mouths.

There is no photograph of the particular moment when Heinrich Himmler stares into the face of death. What does he look like? Is he pale? He is stricken. This, the accounts tell us, is more than he thought it would be. He has imagined something quieter, more efficient, like the even rows of numbers, the alphabetical lists of names he likes to put in his files. Something he might be able to understand and contain. But one cannot contain death so easily.

Because Himmler finds it so difficult to witness these deaths, the Commandant makes an appeal to him. If it is so hard for you, he says, think what it must be for these young men who must carry out these executions, day after day. Shaken by what he has seen and heard, Himmler returns to Berlin resolved to ease the pain of these men. He will consult an engineer and set him to work immediately on new designs. Before the year has ended, he presents the Einsatzgruppen with a mobile killing truck. Now the young men will not have to witness death day after day. A hose from the exhaust pipe funnels fumes into a chamber built on the bed of a covered truck. This truck has a red cross painted on its side so its passengers will not be alarmed.

To a certain kind of mind, a mind that is habitually trained in this way, what is hidden away ceases to exist. Himmler does not like to watch the suffering of his prisoners. In this sense he does not witness the consequences of his own commands. But the mind is like a landscape in which nothing ever really disappears. What seems to have vanished has only transmuted to another form. Not wishing to witness what he has set in motion, still, in a silent part of himself, he must imagine what takes place. Just as the child is made to live out the unclaimed imagination of the parent, so others under his power were made to bear witness for him. Homosexuals were deliberately made to witness and sometimes take part in the punishment of other homosexuals, Poles of other Poles, Jews of Jews. Other prisoners were required to bury the bodies, or burn them in the gas chambers. As far as possible, the hands of the men of the SS were protected from the touch of death.

Heinrich Himmler did not attend the Wansee Conference himself. He sent his assistant Reinhardt Heydrich. In this way an odd system of insulation was created. Himmler did not partake in the actual preparations for what he called "the final solution." Yet Heydrich, who was there, did not count himself entirely present. He could say that each decision he made was at the behest of Heinrich Himmler. These crimes, these murders of millions, were all carried out in absentia, as if by no one in particular.

This ghostlike quality, the perpetual absence of a knowing conscience, as if the living creature had abandoned the shell, was spread throughout the entire chain of command. So a French bureaucrat writing a letter in 1942 speaks in detail of the mass arrests that he himself supervised, as if he had no part in these murders except as a kind of spiritless cog in a vast machine whose force compelled him from without.

PARIS FELL TO THE GERMAN armies in July, 1940. By September of that year a notice went up in all the neighborhoods. *Avis aux Isrelites*, it read, *Notice to Israelites. By the demand of the occupying authorities*, Israelites must present themselves by October 2, without delay, equipped with identification papers, to the office of the Censor, to complete an identity card. The notice was signed by the mayor and threatened the most severe punishment for failure to comply. Through this process vital information was recorded about each Jewish family. Names, ages, addresses, occupations, places of work. An index card was made up for each person. And each card was then duplicated and sent to the offices of the Gestapo on Avenue Foch. There, the cards were duplicated several more times so that the names could be filed by several categories, alphabetically by surname, by address, by arrondissement, occupation and nationality. The work that would now be done by computer was painstakingly completed by countless men and women. Their labor continued fever-

(Left) Heinrich Himmler and his assistant Reinhardt Heydrich in Vienna, 1938.

(Above) Himmler visits Italy at Mussolini's invitation, 1938. Heydrich is at the back right.

ishly almost until the hour of the first mass arrests, the *rafles*, two years later.

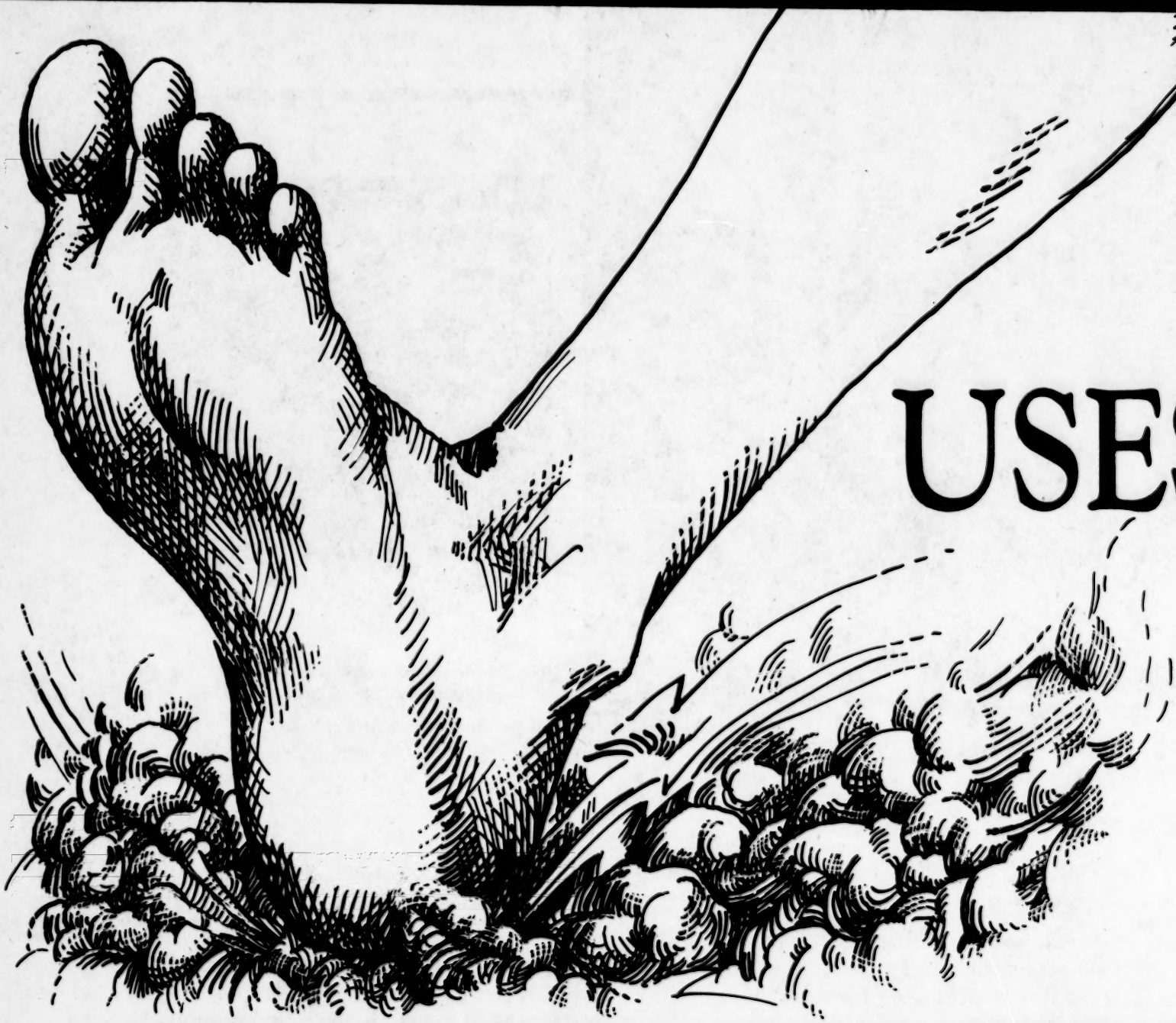
The arrests could never have taken place on such a massive scale without this vast system of information. What did they think, these who were enlisted for this work? They were civilians. French. There were of course Nazi collaborators, those who shared the same philosophy, or who simply obeyed and profited from whoever might be in power. But among the men and women who did this work, my suspicion is there were many who tried to keep from themselves the knowledge of what they did. Of course, the final purpose of their labors was never revealed to those who prepared the machinery of arrest. If a man allowed his imagination to stray in the direction of this purpose, he could no doubt comfort himself with the argument that he was only handling pieces of paper. And that matters were simply being set in order. The men and women who manufacture the trigger mechanisms for bombs do not tell themselves they are making weapons. They say simply that they are metal forgers. There are many ways we have of standing outside ourselves in ignorance.

Those who have learned as children to become strangers to themselves do not find this a difficult task. Habit has made it natural not to feel. To ignore the consequences of what one does in the world becomes ordinary. And this tendency is encouraged by a social structure which makes fragments of real events. One is never allowed to see the effects of what one does. But this ignorance is not entirely passive. For some souls, blindness has become a kind of refuge from a painful reality that stretches back in time over many years; it is a way of life that has been chosen, even with a very stubborn volition, a stance raised against fear that does not yield easily even to visible evidence.

The arrests were accompanied by an elaborate procedure, needed on some level no doubt for practical reasons, but also serving another purpose. They appeared as if garbed in the cloak of legality. A mind separated from the self, from felt experience, the life of the body, the memory of childhood, cannot easily tell right from wrong. To this mind, the outward signs of law and order signify righteousness. That Himmler had such a mind was not unique in his generation, nor, I suspect, in ours.

In a museum in Paris I found a mimeographed sheet giving instructions to the Paris police on how to arrest Jews. They must always carry red pencils, the sheet admonished, because all records regarding the arrests of Jews must be written in red. And the instructions went on to specify that regarding the arrests of Jews all records must be made in triplicate. Finally, the sheet of instructions included a way to categorize those Jews arrested. I could not make any sense of the categories.

I only knew them to be crucial. That they might determine life or death for some woman, or man, or child. And that in the life of the mind that invented these categories they had to have had some hidden significance, standing, like the crudely shaped characters of a medieval play, for shades of feeling, hidden states of being, secret knowledge. The instructions faintly printed on this aging piece of paper, preserved under glass in a museum in Paris, bore in a way the fingerprints of Heinrich Himmler's psyche, the full dimension of his imagination, and all his own history, even that which he himself had forgotten. ■



USES

THE EROTIC AS POWER

BY AUDRE LORDE

Black lesbian feminist Audre Lorde is the author of numerous books of poetry and essays. She is an outspoken critic of racism, sexism, classism, and other systems of domination, as well as a prolific creator of new cultural possibilities. This essay was originally delivered as a speech in 1978 at the Fourth Berkshire Conference on the History of Women, Mount Holyoke College, and has become a feminist classic of sorts. It is not about the erotic in the sexual sense, but in the sense of doing with feeling, *whether what you're doing is working, reading, or making love.*

—Jeanne Carstensen

Illustrated by Kathleen O'Neill

"Uses of the Erotic: The Erotic as Power" from* Sister Outsider, *© 1984 by Audre Lorde, published by The Crossing Press, Freedom, CA. Reprinted with permission.

THERE ARE MANY KINDS OF POWER, used and unused, acknowledged or otherwise. The erotic is a resource within each of us that lies in a deeply female and spiritual plane, firmly rooted in the power of our unexpressed or unrecognized feeling. In order to perpetuate itself, every oppression must corrupt or distort those various sources of power within the culture of the oppressed that can provide energy for change. For women, this has meant a suppression of the erotic as a considered source of power and information within our lives.

We have been taught to suspect this resource, vilified, abused, and devalued within western society. On the one hand, the superficially erotic has been encouraged as a sign of female inferiority; on the other hand, women have been made to suffer and to feel both contemptible and suspect by virtue of its existence.

It is a short step from there to the false belief that only by the suppression of the erotic within our lives and consciousness can women be truly strong. But that strength is illusory, for it is fashioned within the context of male models of power.

As women, we have come to distrust that power which rises from our deepest and nonrational knowledge. We have been warned against it all our lives by the male world, which values this depth of feeling enough to keep women around in order to exercise it in

OF THE EROTIC:

the service of men, but which fears this same depth too much to examine the possibilities of it within themselves. So women are maintained at a distant/inferior position to be psychically milked, much the same way ants maintain colonies of aphids to provide a life-giving substance for their masters.

But the erotic offers a well of replenishing and provocative force to the woman who does not fear its revelation, nor succumb to the belief that sensation is enough.

The erotic has often been misnamed by men and used against women. It has been made into the confused, the trivial, the psychotic, the plasticized sensation. For this reason, we have often turned away from the exploration and consideration of the erotic as a source of power and information, confusing it with its opposite, the pornographic. But pornography is a direct denial of the power of the erotic, for it represents the suppression of true feeling. Pornography emphasizes sensation without feeling.

The erotic is a measure between the beginnings of our sense of self and the chaos of our strongest feelings. It is an internal sense of satisfaction to which, once we have experienced it, we know we can aspire. For having experienced the fullness of this depth of feeling and recognizing its power, in honor and self-respect we can require no less of ourselves.

It is never easy to demand the most from ourselves, from our lives, from our work. To encourage excellence is to go beyond the encouraged mediocrity of our society. But giving in to the fear of feeling and working to capacity is a luxury only the unintentional can afford, and the unintentional are those who do not wish to guide their own destinies.

This internal requirement toward excellence which we learn from the erotic must not be misconstrued as demanding the impossible from ourselves nor from others. Such a demand incapacitates everyone in the process. For the erotic is not a question only of what we do; it is a question of how acutely and fully we can feel in the doing. Once we know the extent to which we are capable of feeling that sense of satisfaction and completion, we can then observe which of our various life endeavors bring us closest to that fullness.

The aim of each thing which we do is to make our lives and the lives of our children richer and more possible. Within the celebration of the erotic in all our endeavors, my work becomes a conscious decision — a longed-for bed which I enter gratefully and from which I rise up empowered.

OF COURSE, WOMEN SO EMPOWERED are dangerous. So we are taught to separate the erotic demand from most vital areas of our lives other than sex. And the lack of concern for the erotic root and satisfactions of our work is felt in our disaffection from so much of what we do. For instance, how often do we truly love our work even at its most difficult?

The principal horror of any system which defines the good in terms of profit rather than in terms of human need, or which defines human need to the exclusion of the psychic and emotional components of that need — the principal horror of such a system is that it robs our work of its erotic value, its erotic power and life appeal and fulfillment. Such a system reduces work to a travesty of necessities, a duty by which we earn bread or oblivion for ourselves and those we love. But this is tantamount to blinding a painter and then telling her to improve her work, and to enjoy the act of painting. It is not only next to impossible, it is also profoundly cruel.

As women, we need to examine the ways in which our world can be truly different. I am speaking here of the necessity for reassessing the quality of all the aspects of our lives and of our work, and

of how we move toward and through them.

The very word *erotic* comes from the Greek word *eros*, the personification of love in all its aspects — born of Chaos, and personifying creative power and harmony. When I speak of the erotic, then, I speak of it as an assertion of the lifeforce of women; of that creative energy empowered, the knowledge and use of which we are now reclaiming in our language, our history, our dancing, our work, our lives.

There are frequent attempts to equate pornography and eroticism, two diametrically opposed uses of the sexual. Because of these attempts, it has become fashionable to separate the spiritual (psychic and emotional) from the political, to see them as contradictory or antithetical. "What do you mean, a poetic revolutionary, a meditating gunrunner?" In the same way, we have attempted to separate the spiritual and the erotic, thereby reducing the spiritual to a world of flattened affect, a world of the ascetic who aspires to feel nothing. But nothing is farther from the truth. For the ascetic position is one of the highest fear, the gravest immobility. The severe abstinence of the ascetic becomes the ruling obsession. And it is one not of self-discipline but of self-abnegation.

The dichotomy between the spiritual and the political is also false, resulting from an incomplete attention to our erotic knowledge. For the bridge which connects them is formed by the erotic — the sensual — those physical, emotional, and psychic expressions of what is deepest and strongest and richest within each of us, being shared: the passions of love, in its deepest meanings.

Beyond the superficial, the considered phrase, "It feels right to me," acknowledges the strength of the erotic into a true knowledge, for what that means is the first and most powerful guiding light toward any understanding. And understanding is a handmaiden which can only wait upon, or clarify, that knowledge, deeply born. The erotic is the nurturer or nursemaid of all our deepest knowledge.

THE EROTIC FUNCTIONS FOR ME IN several ways, and the first is in providing the power which comes from sharing deeply any pursuit with another person. The sharing of joy, whether physical, emotional, psychic, or intellectual, forms a bridge between the sharers which can be the basis for understanding much of what is not shared between them, and lessens the threat of their difference.

Another important way in which the erotic connection functions is the open and fearless underlining of my capacity for joy. In the way my body stretches to music and opens into response, hearkening to its deepest rhythms, so every level upon which I sense also opens to the erotically satisfying experience, whether it is dancing, building a bookcase, writing a poem, examining an idea.

That self-connection shared is a measure of the joy which I know myself to be capable of feeling, a reminder of my capacity for feeling. And that deep and irreplaceable knowledge of my capacity for joy comes to demand from all of my life that it be lived within the knowledge that such satisfaction is possible, and does not have to be called *marriage*, nor *god*, nor *an afterlife*.

This is one reason why the erotic is so feared, and so often relegated to the bedroom alone, when it is recognized at all. For once we begin to feel deeply all the aspects of our lives, we begin to demand from ourselves and from our life-pursuits that they feel in accordance with that joy which we know ourselves to be capable of. Our erotic knowledge empowers us, becomes a lens through which we scrutinize all aspects of our existence, forcing us to evaluate those aspects honestly in terms of their relative meaning within our lives. And this is a grave responsibility, projected from within each of us, not to settle for the convenient, the shoddy, the conventionally expected, nor the merely safe.

During World War II, we bought sealed plastic packets of white, uncolored margarine, with a tiny, intense pellet of yellow coloring perched like a topaz just inside the clear skin of the bag. We would leave the margarine out for a while to soften, and then we would pinch the little pellet to break it inside the bag, releasing the rich yellowness into the soft pale mass of margarine. Then taking it carefully between our fingers, we would knead it gently back and forth, over and over, until the color had spread throughout the whole pound bag of margarine, thoroughly coloring it.

I find the erotic such a kernel within myself. When released from its intense and constrained pellet, it flows through and colors my life with a kind of energy that heightens and sensitizes and strengthens all my experience.

WE HAVE BEEN RAISED TO FEAR THE *yes* within ourselves, our deepest cravings. But, once recognized, those which do not enhance our future lose their power and can be altered. The fear of our desires keeps them suspect and indiscriminately powerful, for to suppress any truth is to give it strength beyond endurance. The fear that we cannot grow beyond whatever distortions we may find within ourselves keeps us docile and loyal and obedient, externally defined, and leads us to accept many facets of our oppression as women.

When we live outside ourselves, and by that I mean on external directives only rather than from our internal knowledge and needs, when we live away from those erotic guides from within ourselves, then our lives are limited by external and alien forms, and we conform to the needs of a structure that is not based on human need, let alone an

individual's. But when we begin to live from within outward, in touch with the power of the erotic within ourselves, and allowing that power to inform and illuminate our actions upon the world around us, then we begin to be responsible to our selves in the deepest sense. For as we begin to recognize our deepest feelings, we begin to give up, of necessity, being satisfied with suffering and self-negation, and with the numbness which so often seems like their only alternative in our society. Our acts against oppression become integral with self, motivated and empowered from within.

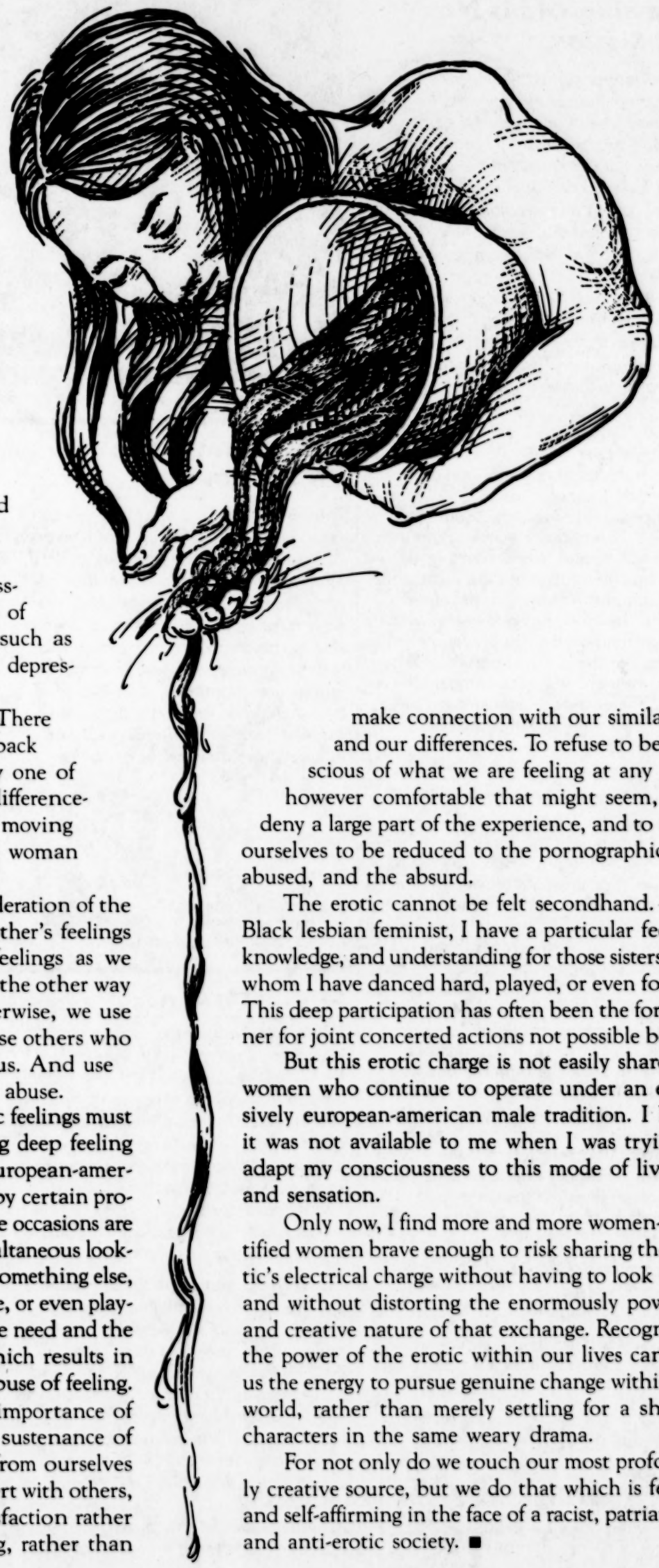
In touch with the erotic, I become less willing to accept powerlessness, or those other supplied states of being which are not native to me, such as resignation, despair, self-effacement, depression, self-denial.

And yes, there is a hierarchy. There is a difference between painting a back fence and writing a poem, but only one of quantity. And there is, for me, no difference between writing a good poem and moving into sunlight against the body of a woman I love.

This brings me to the last consideration of the erotic. To share the power of each other's feelings is different from using another's feelings as we would use a kleenex. When we look the other way from our experience, erotic or otherwise, we use rather than share the feelings of those others who participate in the experience with us. And use without the consent of the used is abuse.

In order to be utilized, our erotic feelings must be recognized. The need for sharing deep feeling is a human need. But within the european-american tradition, this need is satisfied by certain proscribed erotic comings-together. These occasions are almost always characterized by a simultaneous looking away, a pretense of calling them something else, whether a religion, a fit, mob violence, or even playing doctor. And this misnaming of the need and the deed give rise to that distortion which results in pornography and obscenity — the abuse of feeling.

When we look away from the importance of the erotic in the development and sustenance of our power, or when we look away from ourselves as we satisfy our erotic needs in concert with others, we use each other as objects of satisfaction rather than share our joy in the satisfying, rather than



make connection with our similarities and our differences. To refuse to be conscious of what we are feeling at any time, however comfortable that might seem, is to deny a large part of the experience, and to allow ourselves to be reduced to the pornographic, the abused, and the absurd.

The erotic cannot be felt secondhand. As a Black lesbian feminist, I have a particular feeling, knowledge, and understanding for those sisters with whom I have danced hard, played, or even fought. This deep participation has often been the forerunner for joint concerted actions not possible before.

But this erotic charge is not easily shared by women who continue to operate under an exclusively european-american male tradition. I know it was not available to me when I was trying to adapt my consciousness to this mode of living and sensation.

Only now, I find more and more women-identified women brave enough to risk sharing the erotic's electrical charge without having to look away, and without distorting the enormously powerful and creative nature of that exchange. Recognizing the power of the erotic within our lives can give us the energy to pursue genuine change within our world, rather than merely settling for a shift of characters in the same weary drama.

For not only do we touch our most profoundly creative source, but we do that which is female and self-affirming in the face of a racist, patriarchal, and anti-erotic society. ■

Growing Old Is Not For Sissies

My hormones rushed when I saw the body on the cover of this book. My jaw dropped when I discovered the age of the man who possesses it. That initial amazement didn't stop at the cover. Inside I found myself admiring a photo of a man cutting an incredible spray on his slalom ski, then discovering he's 71. And there's the 81-year-old woman who can deadlift 245 pounds. The sports and pursuits of these senior athletes vary, but the determination, skill, motivation and sense of play that emerge from Clark's photos and profiles are a wonderful incentive for anyone.

—Cindy Fugett

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Helen Zechmeister *age 81*

Helen holds eight national age-group power lifting records (deadlift, 245 lbs.; benchpress, 94½ pounds; squat, 148 lbs.). . . . Every day Helen works out with her husband, Josef, running, swimming and lifting. She has the excitement and enthusiasm of a child, delighted with her surroundings and in love with weight lifting. At only approximately 5' 3", she has the physical presence of a young woman. She once competed in a men's 35-years-and-older bracket because there were no other women entrants. She won.

•

Luella Tyra *age 92*

Luella was the oldest competitor at the 1984 Nationals in Mission Viejo. When I saw her, I thought, "How *frail* she is!" Her two coaches, both master swimmers in their 70s, were hovering around her talking strategy. She was getting ready for one of four or five races that day and sat all bundled up. I took some pictures of her then and just before one race by the side of the pool. When it was time to race, she stepped up and dove in. I saw her do the backstroke, the breaststroke, the butterfly and freestyle. The frail lady I first saw became a tiger in the water. Her coaches helped her out of the water after each exhausting race, but other than that she was on her own. I had not ever seen a 92-year-old woman dive into the water and swim 100 meters. I had not even imagined it possible.

Growing Old Is Not For Sissies

Etta Clark, 1986; 115 pp.

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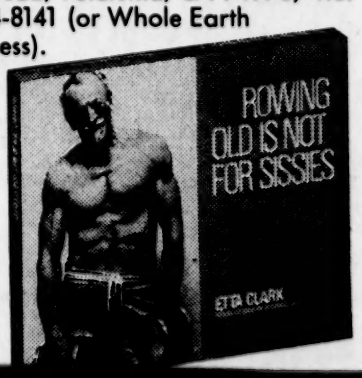


Helen Zechmeister, 81, power lifter.

WSA Community Pharmacy

This not-for-profit, collectively run business was started by a bunch of University of Wisconsin/Madison hippies in 1972. With the motto "helping you take responsibility for your own health," they have a far wider selection of alternative health care products, especially hard-to-find supplements, herbal formulas, lotions and shampoos, than I've seen anywhere else. Their catalog is comprehensive, their mail-order fast and efficient, and their prices are below average, sometimes stunningly so. The catalog is also fun to read, with information "Health Capsules" on topics like condoms and cholesterol, and a cosmetic-ingredients dictionary.

—D. Bilgere

WSA Community Pharmacy

Catalog

$1 (refundable with first order) from: WSA Community Pharmacy, 341 State Street, Madison, WI 53703; 608/251-3242.

ITEM	**VITAMIN E**	SIZE	PRICE
MASON			
D-ALPHA E 100 IU		100 CAPSULES	2.70
D-ALPHA E 200 IU		100 CAPSULES	4.60
D-ALPHA E 400 IU		100 CAPSULES	6.95
D-ALPHA E 1000 IU		50 CAPSULES	9.00
MIXED TOCOPHEROLS E 200 IU		100 CAPSULES	3.10
MIXED TOCOPHEROLS E 400 IU		100 CAPSULES	4.10

Cholesterol

The latest pop measure of good health is one's cholesterol count. You'll often find quick, inexpensive ($5) tests for this offered in shopping areas or company health clinics. In fact, there is a campaign afoot in Sausalito, where this magazine is based, to become a "cholesterol-free zone." Cholesterol won't be the last health craze our health-crazed society will see, but it's still probably a good thing to monitor (among others).

Two self-help videos about controlling cholesterol have circulated rapidly through our staff for viewing. The general consensus was that "The 8-Week Cholesterol Cure Video" (and accompanying book) was for those who needed a hard-hitting, graphic confrontation and just-tell-me-what-to-do instructions. Some folks with higher counts found this video's directness more motivating. "Cholesterol Control: An Eater's Guide" is a more mellow approach for those persuaded of the goodness of low cholesterol but who are seeking non-threatening advice and recipes on how to eat well without being condemned to a diet of oat bran.

These are the kind of tools health centers or public libraries should have on loan. Get 'em to order both. —Kevin Kelly

The 8-Week Cholesterol Cure

(Video):

$32.90 postpaid from: Video Tickets, P. O. Box 3169, Ogden, UT 84409; 800/535-5599.

(Book):

Robert E. Kowalski, 1987; 250 pp.

$17.95 ($19.45 postpaid) from: Harper & Row, Rt. 3/Box 20B, Hagerstown, MD 21740; 800/638-3030.

Cholesterol Control:

An Eater's Guide (video)

$32.95 postpaid from: Cholesterol Control Video, 6121 Hollis Street, Emeryville, CA 94608; 800/669-1955.

WHEN WOMEN TAKE OVER

BY RUTH WALLSGROVE

I WANT TO ADDRESS a rather unsavory subject, one none of us wants to think about. We have a duty to get to the scientific truth, however unpalatable that may be. Believe me, were this not a way to get a theory named after myself, I would look the other way, too. It concerns a particularly unsightly social disease, "gynopathy," for which no one yet has a certain cure.

Scientists have been studying the condition closely, however. At a recent conference in West Germany, a researcher put forward the hypothesis that if, in any given area of technical work, women colleagues come to number more than 50 percent, men inevitably contract gynopathy. The obvious palliative for them is either to get out of that line of work, deciding it must, after all, be inferior womanly stuff if so many women can do it (the social term is "feminisation"); or of course, to hire a lot of other men very quickly.

The first symptom of gynopathy is probably a comment along the lines of "My goodness, you girls seem to be taking over!", at which point the man in question can still usually laugh. But the ability to make jokes about girls soon goes.

The progress, and general cause, of the affliction are well understood. However, I would take issue with the researcher about the proportion of women in the workplace needed to trigger it. I would like to propose, instead, two critical stages. At very low concentrations of women, men can still suffer a mild form of gynopathy, being sensitive even to one or two women per laboratory or office. They can recover from this. What is much more serious is when the concentration is high enough for the men to feel outnumbered. But this concentration is not, in fact, 50 percent.

Research done on schoolchildren has shown that boys feel ignored if teachers devote more than about 30 percent of their time to the girls. On the basis of this work, I suggest that men contract acute gynopathy when one-third of their colleagues are women. An explanation is not hard to find: people find women much more "gendered" than men. That is, they notice women are women more than they notice men are men (men are just people). If we take it that women are just twice as gendered as men, women would seem to predominate when they accumulate over 33 percent.

This isn't yet proof of "Wallsgrove's Law," of course. I would like to enlist the help of readers, men and women, to monitor their own workplaces. How many women does it take in your particular field before men come down with gynopathy? Is there a cure? ■

This query comes by way of New Scientist, *the weekly review of science and technology. Ruth Wallsgrove works for Microsyster, a feminist computer collective in London.*

—Kevin Kelly

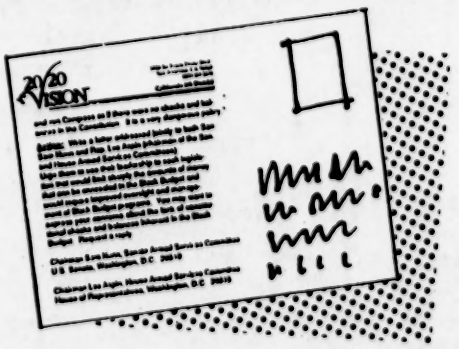
20/20 Vision

You can say what you want about McDonald's beef-and-airbread emporia, but you have to admit the set-up works, serving a vast number of customers around the world, well enough that millions return time and again, figuring that in terms of speed, convenience, and price (if not nutrition and ecology), their needs are being met.

What if political activism were engineered as efficiently? That is, what if the customers were offered so good a deal, in terms of speed, convenience, and price — as well as nutrition and ecology — that there would be no reason for them not to be involved in the political process? 20/20 Vision is an attempt to answer that question.

20/20 Vision's agenda is "practical peacemaking," concentrating on defense spending and reversing the arms race, but the model they've developed is so elegant and adaptable that it could be applied to virtually any issue where grassroots citizen involvement is at a premium. As such, it represents a major advance over the time-honored but now moth-eaten method of massive direct mailings of lachrymose, guilt-inducing appeals.

20/20's operation is simple. A local "district project" — the ultimate goal: one in every congressional district — is established with turnkey-level assistance from the national office. Constituents (called "subscribers" rather than "supporters" or "donors") are guaranteed they will not need to commit more than twenty minutes to carry out that month's action — usually, writing or phoning a legislator. (A $20-per-year "service fee" is also requested, but not required.) Subscribers are also guaranteed the recommended action will make the best possible use of their twenty minutes that month. Local people form a "core group" of five to ten members who commit to four to five hours per month each, researching legislative issues affecting constituents, and recommending a lobbying action on a particular issue. On the local level, hard costs are minimal and the service is self-supporting.



No wringing of hands whether to feed starving children or save endangered species: how much money you can spend is not at issue. There's also no worry that 90 percent of funds is being diverted to empire-building. The aim is not to assuage or exploit guilt but to develop involvement. It works. Influential legislators are influenced, wrongheaded government actions (such as the Air Force's plans to install a Ground Wave Emergency Network tower in the local community) are averted, democracy is found to be a viable idea.

Rainforests? Fisheries? Dump sites? State budgets? Media policymaking? Religion in schools? Anyone have an issue they'd like to apply a new tool to?

—Phil Catalfo

20/20 Vision
1181-C Solano Avenue, Albany,
CA 94706; 415/528-8800.

DYSFUNCTIONAL FAMILIES

THE HUMAN POTENTIAL MOVEMENT made therapeutic counseling an acceptable method of self-growth, where formerly only the desperately whacked-out sought help. That brought onto the couch a new sort of client — one who was functioning, yet unhappy and anxious. Counselors began noticing the common link between many of them: they were the adult children of alcoholics. When the profile of adult children of alcoholics became widely known, some unhappy and anxious people with non-alcoholic parents claimed it fit them too. Turns out any kind of dysfunctional family will result in adult children with these problems — they're symptomatic of the common way children learn to survive a non-nourishing, crazy sort of family. The bad news is that dysfunctional families are probably the norm in the U.S. now. The good news is that the steps to recognition and help are available through these books.

—Corinne Cullen Hawkins

Beyond the Booze Battle

Spouses (and other family members) of alcoholics have an alcohol problem, too, called co-dependency. Co-dependency is the name given to all the twists and contortions people make in their personalities and behavior to stabilize the family when one member is addicted or otherwise out of control. The dynamics of this dysfunction are well drawn here, using personal stories.

This book is not about rescuing others, and it's not about fixing your family — those are typical co-dependent responses. But it is about breaking old patterns and the resulting change in family dynamics. Change yourself, and the rest of the family has to adjust.

Originally titled ***Breakthrough****, the publishers made a big mistake changing the name of this book (who uses the word "booze" nowadays?). Don't be put off.*

—CCH

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If you are living with someone who is harmfully involved with alcohol or drugs, you may be questioning your own sanity. *You're not crazy. You may feel shattered, but you are not crazy.*

Look at some of the rules of your household. Rules set by the alcohol- or drug-dependent person, the most disturbed person in your family. Rules strengthened by the very fact that they're rarely articulated. Rules that are inhuman. Rules that would make *anyone* feel crazy.

Rule number one. *The alcohol- or drug-dependent person is the most important person in the family.* His needs and wants matter the most, while yours matter little, if at all. This rule, set forth by behavior more than words, clearly states that the chemically dependent person can do whatever he wishes whenever he wishes, and that you exist to serve him.

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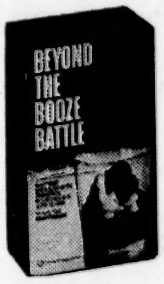
One of the issues that keeps popping up time and time again in the early days of residential co-dependency treatment has to do with fixing others. It is a result of the co-dependents' great sense of powerlessness and belief in a magic formula for curing the dependent and all their problems. People who feel powerless tend to look for magic formulas, and they tend to manipulate others.



Beyond the Booze Battle
Ruth Maxwell, 1986; 290 pp.

$3.95 ($4.95 postpaid) from:
Random House, 400 Hahn Road, Westminster, MD 21157; 301/848-1900 (or Whole Earth Access).

Adult Children of Alcoholics

Dostoevsky once said that every happy family is happy the same way but every unhappy family is unhappy in its own unique way. He was wrong, at least about the unhappy families. This book could be called an anatomy of an unhappy childhood and how to get past it. Don't be stopped from using it by an absence of alcoholism in your parents. *—Joan M. Howe*

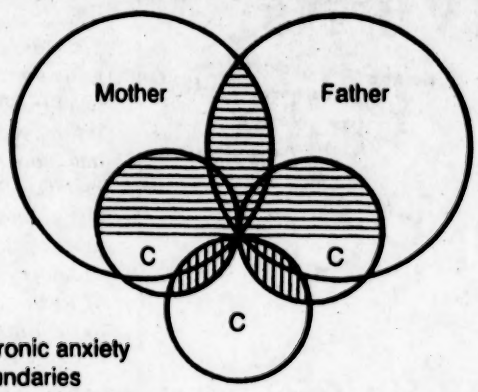
Adult Children of Alcoholics
Janet Geringer Woititz, Ed.D
1983; 106 pp.

$6.95 ($8.95 postpaid) from:
Health Communications, Inc., Enterprise Center, 3201 SW 15th Street, Deerfield Beach, FL 33442; 800/851-9100 (or Whole Earth Access).

1. Adult children of alcoholics guess at what normal behavior is.
2. Adult children of alcoholics have difficulty following a project through from beginning to end.
3. Adult children of alcoholics lie when it would be just as easy to tell the truth.
4. Adult children of alcoholics judge themselves without mercy.
5. Adult children of alcoholics have difficulty having fun.
6. Adult children of alcoholics take themselves very seriously.
7. Adult children of alcoholics have difficulty with intimate relationships.
8. Adult children of alcoholics overreact to changes over which they have no control.
9. Adult children of alcoholics constantly seek approval and affirmation.
10. Adult children of alcoholics usually feel that they are different from other people.
11. Adult children of alcoholics are super responsible or super irresponsible.
12. Adult children of alcoholics are extremely loyal, even in the face of evidence that the loyalty is undeserved.
13. Adult children of alcoholics are impulsive. They tend to lock themselves into a course of action without giving serious consideration to alternative behaviors or possible consequences. This impulsivity leads to confusion, self-loathing, and loss of control over their environment. In addition, they spend an excessive amount of energy cleaning up the mess.

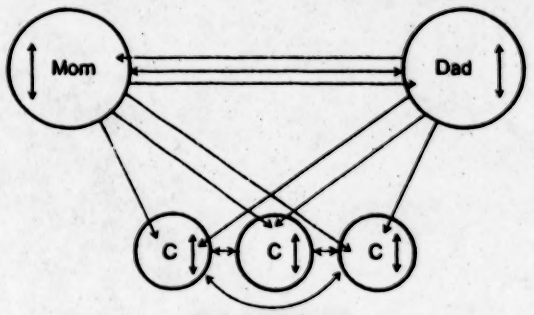
Dysfunctional Family System

Equifinality — no matter where one begins the conclusion is the same whether the subject is money, sex, in-laws, the pattern will be the same.



1. High level chronic anxiety
2. Fusion of boundaries
3. Confused and covert rules
4. System is rigid & static w/rigid roles
5. Undifferentiated ego mass
6. Loss of five freedoms
7. Pseudo-mutuality

Functional Family System Chief Components



FIVE FREEDOMS

1. Whole greater than the sum of the parts.
2. System is dynamic — constantly seeks openness and growth adjusting to feedback and stress.
3. Rules are overt and negotiable.
4. Mutual Respect Balance — Togetherness — Individuation.
5. When anxiety is low interpersonally and intraphysically, the force toward individuation automatically emerges.

Bradshaw On: The Family

Think of the family as a whole system. When one member is dysfunctional, say a father who is an alcoholic, then that entire family becomes dysfunctional, much as removing a single species can eventually demolish an entire ecosystem. Parents out of kilter generate children stressed by their compensating roles, who are then likely to have dysfunctional families themselves. In therapy, then, the patient is the whole family. Like other restoration work, trying to heal kids by healing their parents' relationship is a tough game. This is one of the first books for the layperson on this relatively new perspective — an ecological approach to individual psychological health.

—Kevin Kelly

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In every dysfunctional family, there is a primary stressor. This could be Dad's drinking or work addiction; Mom's hysterical control of everyone's feelings; Dad or Mom's physical or verbal violence; a family member's actual sickness or hypochondriasis; Dad or Mom's early death; the divorce; Dad or Mom's moral/religious righteousness; Dad or Mom's sexual abuse. Anyone, who becomes controlling in the family to the point of being experienced as a threat by the other members, initiates the dysfunction. This member becomes the primary stressor. Each member of the family adapts to this stress in an attempt to control it. Each becomes *outerdirected* and lives adapting to the stressor for as long as the stress exists. *Each becomes co-dependent on the stressor.*

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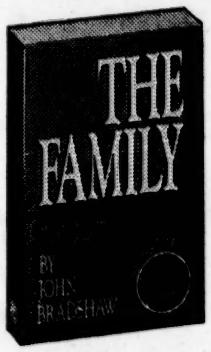
We cannot have an identity all alone. We need at least one significant other who verifies our sense of worth. Our identity is the difference about us that makes a difference. It must always be grounded in a social context — in a relationship.



Bradshaw On: The Family
John Bradshaw, 1988; 242 pp.
$9.95 ($11.20 postpaid) from: Health Communications, Inc., Enterprise Center, 3201 SW 15th Street, Deerfield Beach, FL 33442; 800/851-9100 (or Whole Earth Access).

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[Murray] Bowen saw the following scenario as the dominant pattern in producing emotional illness. Two people, carrying unresolved conflicts with their parents, get married. As the intimacy voltage rises in the marriage, these conflicts become more intense. The partners try to settle these issues with an emotional divorce, "a marked emotional distance". Very often both agree not to disagree and establish a pseudo-intimacy. The marriage looks good on the outside. There is a facade of happiness. But beneath the surface there is struggle, pain and loneliness.

When a child is born, it is "triangled" into the system. The child becomes the focus of the relationship. The child is locked into the system and finds it virtually impossible to leave the family. This child often becomes emotionally disturbed and is the identified patient who is sent to therapy. Actually the identified patient is only a symptom of the emotionally disturbed marriage. And the patient's so-called emotional illness can be seen and understood only in relation to the emotional system of which he is a part. There is emotional contagion in the whole family. The one who is labeled "sick" is the symptom-bearer of the whole emotional system itself, which is sick.

Family system thinking is grounded in the fact that we humans are inextricably social. My first beliefs about myself were formed from my mother's feelings and desires about me. My self-definition literally began in the womb.

The Self-Help Sourcebook

It's pretty evident by now that every misfortune afflicting humans (well, Americans, at least) has a support group somewhere. This directory tells you where to find them. It lists 3,000. It also tells you how to form your own new mutual-aid group if the flavor of help you want doesn't exist yet. *—Kevin Kelly*

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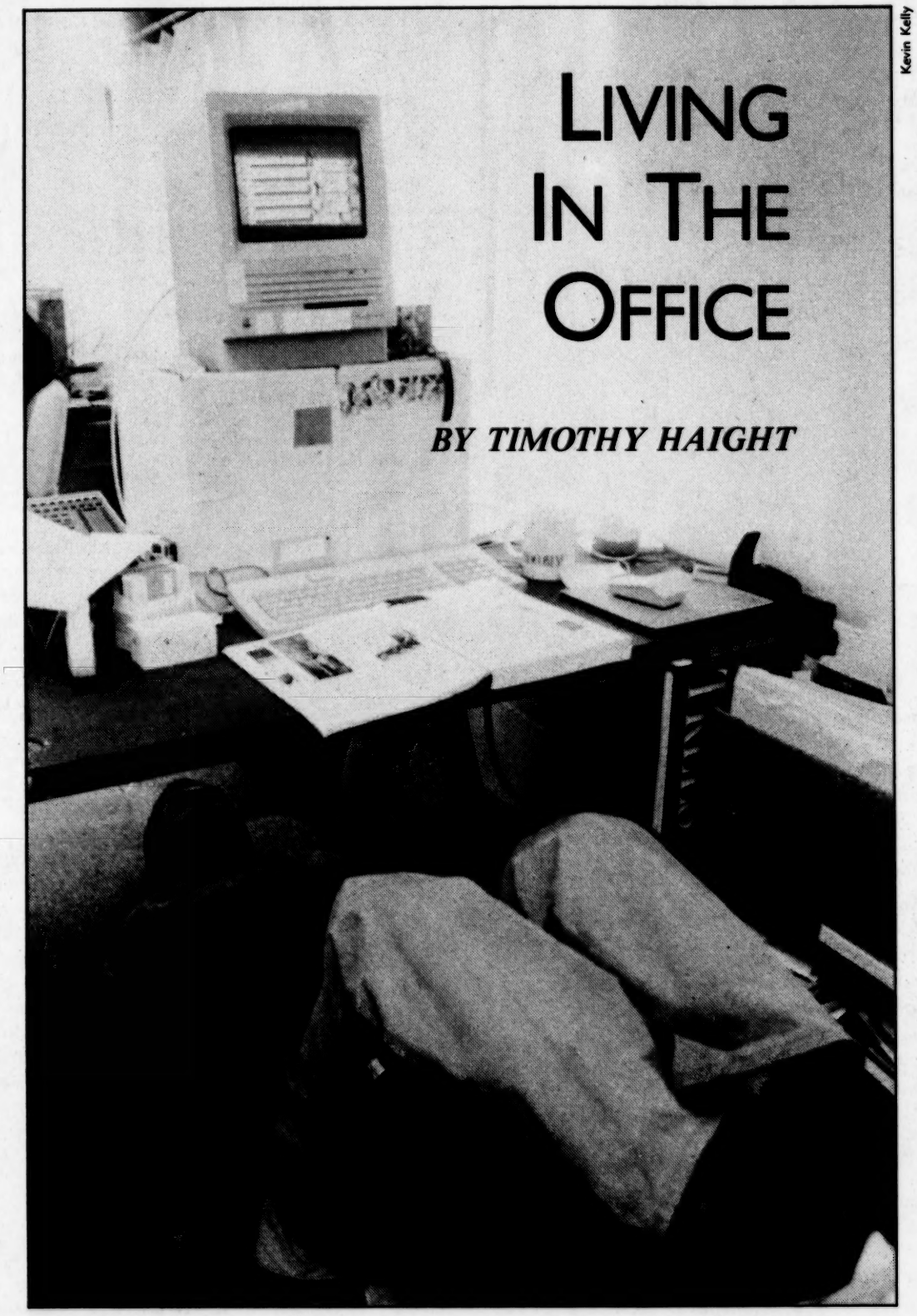
Triplet Connection Information & support for families with triplets (or more). Information re: pregnancy & delivery, networking with other families, support for expectant parents as well as parents of older triplets. Dues $8/yr. Newsletter, phone support, help in forming local groups, workshops. Write: 2618 Lucile Ave., Stockton, CA 95209. Call (209) 474-3073. Organized 1982. 1/86

The Self-Help Sourcebook
Edward J. Madara and Abigail Meese, Editors
1986; 120 pp.
$8 ($9 postpaid) from: New Jersey Self-Help Clearinghouse, Saint Clares-Riverside Medical Center/attn.: Sourcebook, Pocono Road, Denville, NJ 07834; 201/625-9565 (or Whole Earth Access).



Kevin Kelly

LIVING IN THE OFFICE

BY TIMOTHY HAIGHT

Since our in-house telecommunication system (The WELL) sprang to life several years ago, we've had more parties on the premises than ever before. Once a month, WELL-beings gather shoulder to shoulder in our cramped offices. It's sure put the lie to the futuristic notion of pale figures meeting only as disembodied electronic minds at the ends of wires. My take is that computer networkers' on-line conversations are mere overtures working up to the main event of flesh-to-flesh meetings. There are other myths to undo. Tim Haight, a former WELLite, now west coast editor for the industry trade rag CommunicationsWeek, *sees the conventional wisdom of working at home via computer as the first casualty of information-age reality.*
—Kevin Kelly

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Suggested by Roger Knights.

During the marathon assembly of the Electronic Whole Earth Catalog, assistant editor Richard Nilsen takes a nap under his Mac.

TELECOMMUTING, the idea of working at home via telecommunications instead of traveling to work, is one of those social predictions that ought to come true but somehow never does. This kind of idea fascinates me because it indicates some glitch in our thinking that keeps us going in little circles around a concept that almost fits.

Bart Stuck of Probe Research Inc., for example, has predicted that growth of ISDN [an upcoming universal wire that carries several electronic media] will be fueled by people choosing to work at home. Clearly, an end-to-end digital service with some decent bandwidth will make it easier to take the computer home.

The question is whether the society will take advantage of the technology.

I think the office and home are coming together, but not in the way that we might think they are.

Getting Malled

Reminds me of the way I used to think about shopping malls. During the 1960s, one of the prime targets of social criticism was shopping centers. Critics saw them as the end of community, the triumph of the automobile, concrete aggregations of stores with — if the shopper were lucky — a couple of cement benches to sit on.

We longed for a return to the village green, an impulse that resulted in a spate of downtown revitalizations, few of which worked.

Instead, the shopping center got much more comfor-

table, right down to the little twinkling lights in the trees, postmodernist architecture, the movies, the arcades and the sidewalk cafes.

Now that the malls have started featuring craftspeople, collectors, high-school bands, and displays by the local classic car clubs we might as well admit that malls are today's community centers. This is particularly true for teenagers. Some day there will be a nostalgic *American Graffiti*-type film treatment about cruising the mall. (Where were you in '82?)

The Common Good

The '60s social critics saw rampant commercialization and cried for community. Twenty years later, the malls *are* communities — though not exactly what the critics had in mind. We express our commonality not with "Power To The People" but with "Toys 'R' Us."

In retrospect, it seems obvious. Commerce was a more powerful force than social criticism; the critics' ideas were co-opted into the stronger agenda. It's a particular irony we experience over and over, and we never wise up.

Why? because we don't see how traditional we really are. We who came of age in the '60s are now the old folks who are set in their ways and believe these newfangled things are scandalous. This generation doesn't say "blasphemous," it says "overcommercialized." And by doing so it misses the trend.

So here's the scoop: instead of working at home, it's going to be living at the office. The future is not the "home office." It's the "office home."

To be blunt, offices are in many ways nicer places to live. The view out of my office window, for example, is a lot prettier than the view from my bedroom window.

Inside the office, it's a clean, well-lit place. Somebody comes by each night and tidies up. A trained accountant takes care of my business expenses. We have Macintoshes with sophisticated games. We have a full kitchen and bath facilities.

In our New York offices, we have exercise rooms, aerobics classes, a cafeteria and day care. Some companies go much further than we do. Offices are going through the same evolution as malls. Work 'R' Us.

At home I spend a lot of time cleaning up, doing the bills, or fixing things.

I can't quite afford servants, accountants and electricians, but at work, all that is provided for. (If only I could get my parents included on my health insurance!)

Home is where you have to do it all for yourself. For creature comforts and economic stability, the office has the home beat cold. But, of course, that's not what's important about home. It's the emotional contact. Or is it?

That offices have become communities has been clear in mass culture since "The Mary Tyler Moore Show," where the real family was the job family.

Now, for every "Cosby," there's an "L.A. Law"; for every "Family Ties," a "Night Court."

"Thirtysomething" has got the '80s zeitgeist exactly right. The series gives work and home equal billing.

I certainly relate to my officemates better than I do to my neighbors. My office friends are interested in most of the same things, have about the same education and laugh at most of the same jokes.

My next-door neighbor drives a bus, and the lady across the street is retired. Nice folks, but we don't really hit it off.

Once we admit the appeal of the "office home," we don't have to reject family life.

A minor conclusion is what we've understood all along: people like to go into the office for social reasons. The major conclusion is that as offices become nicer places to spend time, being "officeless" will probably take on the same hurt and stigma as homelessness. And this has telecommunications consequences.

Remember that in most families these days, particularly the families of trend-setters, there are two offices and one home. When the couple moves, one person joins the ranks of the officeless. Sometimes, that means losing career or community standing that have taken long years to develop. It can mean leaving the town where the extended family lives. And the process of moving is itself such an obvious hell that it's amazing it took this long for Richard Pryor to make a comedy about it.

Staying put means keeping friendships going — if your friends don't move when you stay.

There are many subtle economic benefits to staying in the same place as well, not the least of which is a profit in real estate.

And school is to our kids what the office is to us. Moving bothers them, too.

We sympathize by telling them we also hated to move when we were kids, and they wonder why we didn't learn from our parents' mistakes.

So my telecommunications prediction is that we'll use the new technologies more and more to cut down on relocation and turnover.

Real telecommuting will mean being able to climb the corporate ladder without loading up the furniture. Or it will mean living where you want without having to sacrifice your career.

It will be choosing what office to work out of, rather than not coming into the office. It could mean moving when and where you choose, rather than when a job comes up and to wherever its last jobholder lived. It may mean allowing the husband or wife who goes along with a spouse's move to take his or her old job to the new town.

Jobs and careers differ. Some can be done anywhere with the help of new technology while some, such as serving in public office, can be done only in one place.

Sorting out which are which, and using our new telecommunications technologies to make them fit with the needs of families and companies, will be the real trend. Not working in your residence. ■

The Portable Office

Chapter One begins, "This book is for business travelers." I work at home and rarely travel. Yet I found ***The Portable Office*** *helpful and inspiring, because it's not so much about business or travel, but about maximizing your productivity wherever you are. It's basically a series of reviews of products and services (with access information), combined with innumerable tricks and tips about time management.*

Yes, a lot of it is about mobility — how to work out of a briefcase, how to pick a car phone or a laptop computer. And it seems aimed primarily at people in sales or corporate management. But the book is a set of more-or-less independent chapters, in no special order, so you only need to dip into the parts that fit your particular needs — sort of like a ***Whole Earth Catalog*** *for frequent fliers. And it's not all geared toward high-priced, high-tech products. The authors are 3-x-5-card fanatics, and are as quick to promote no-cost good work habits as they are whizbang electronics.*

Some of the products recommended were the latest/greatest two or three years ago. Even if there are later/greater things available today, you still can learn lots about the kinds of strategies and tools that can make usually-wasted time creative. —*Robert Horvitz*

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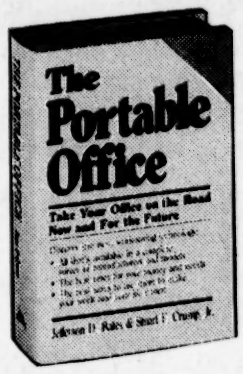
Jeff carries his entire Rolodex with him when he travels. Not literally his Rolodex, but a printed version of all key names and addresses in a 15-20 page report format joined simply with a single staple. A copy of this is left in the same folder containing the stationery, stamps, and envelopes in the back seat of his car. Jeff carries this list when on appointments, and when making his general rounds so that any time during the day he can catch up on phone calls if the opportunity arises. This printed Rolodex also enbles him to make quick substitute stops should any of his prior appointments be cancelled or postponed.



The Portable Office
Jefferson D. Bates and
Stuart F. Crump, Jr., 1987; 262 pp.
$16.95 ($19.20 postpaid) from:
Acropolis Books Ltd., 2400 17th Street NW, Washington, DC 20009; 800/451-7771
(or Whole Earth Access).

Three pagers from Standard Communications give you a choice: the Ambassador (upper left) offers alphanumeric paging; the Diplomat (lower left) offers numeric-only paging; and the tone-only RSVP (right) is the world's smallest pager.

DAK Industries

Savvy, well-priced, friendly electronics catalog — esoteric and unusual, but not off-putting. Lamps that flash on when they detect body heat. Hand-held pseudo-translators. Hands-free phones. CD players, clocks, ionizers, lap computers, and a cheap but serviceable 2400-baud modem (which my wife and I bought, received, and use satisfactorily). Finally, the best "clone" computer deal I've seen in a long time. Mostly I just like to read the product descriptions.
—*Art Kleiner*

DAK Industries, Inc.
Catalog **free** from:
DAK Industries, 8200 Remmet Avenue, Canoga Park, CA 91304; 800/325-0800.

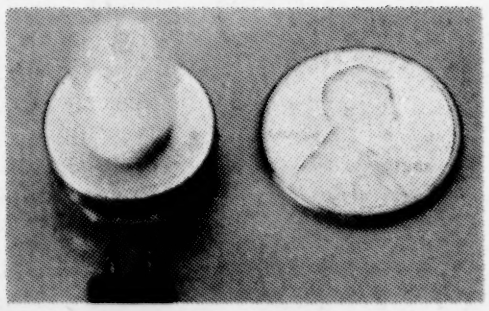
Sony World Band Radio System

A complete communications receiving system in a small, water-resistant, easily transportable case. Even includes a long-wire shortwave antenna! Looks especially good for those traveling long and far, or dependent upon homemade electricity. —*John Benecki*

Sony World Band Radio System: $345 postpaid from L. L. Bean, Casco Street, Freeport, ME 04033; 800/221-4221.

Sony World Band Radio System

Exceptionally compact and powerful multi band radio system connects vacationers, business travelers and armchair adventurers to a world of information. Tune in news and music from Europe, Asia, Africa, Australia, the Middle East and Latin America. Cassette-size receiver offers precise, drift-free reception in AM Short Wave, Medium Wave, Long Wave and FM stereo bands. Clear, accurate, PLL synthesizer microcomputer offers four tuning capabilities: 10-key Direct Access, 10-station Random Memory Preset, auto-scan and manual. Built-in digital alarm clock with easy-to-read LCD multi-display. Boost reception power with telescopic antenna module and controller. System also includes AC adapter, stereo earphones, and Wave Handbook listing the world's major radio broadcasting stations. Powered by 6 AA batteries (not included). Receiver comes with wrist strap and soft pouch with Velcro® closure. Entire system fits into hard, attache-type case. All components made in Japan.
Measures 2¾" wide x 4¼" long x ⅞" deep.
A783WJ Sony World Band Radio System, $345.00 ppd.



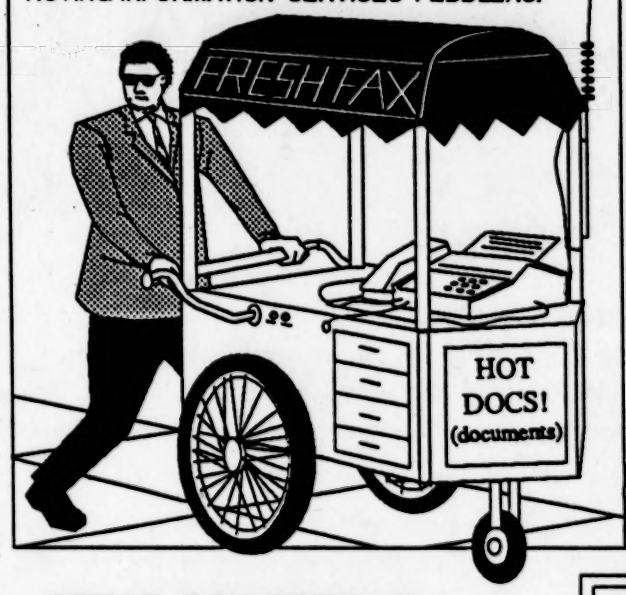
Man Speaks Thru Ear

In a remote village high in the Andes, a man was discovered who spoke through his ear. After years of research, an amazing discovery was made. All people have the same ability. And now, a 2-way communications revolution has begun.

THE PORTABLE OFFICE

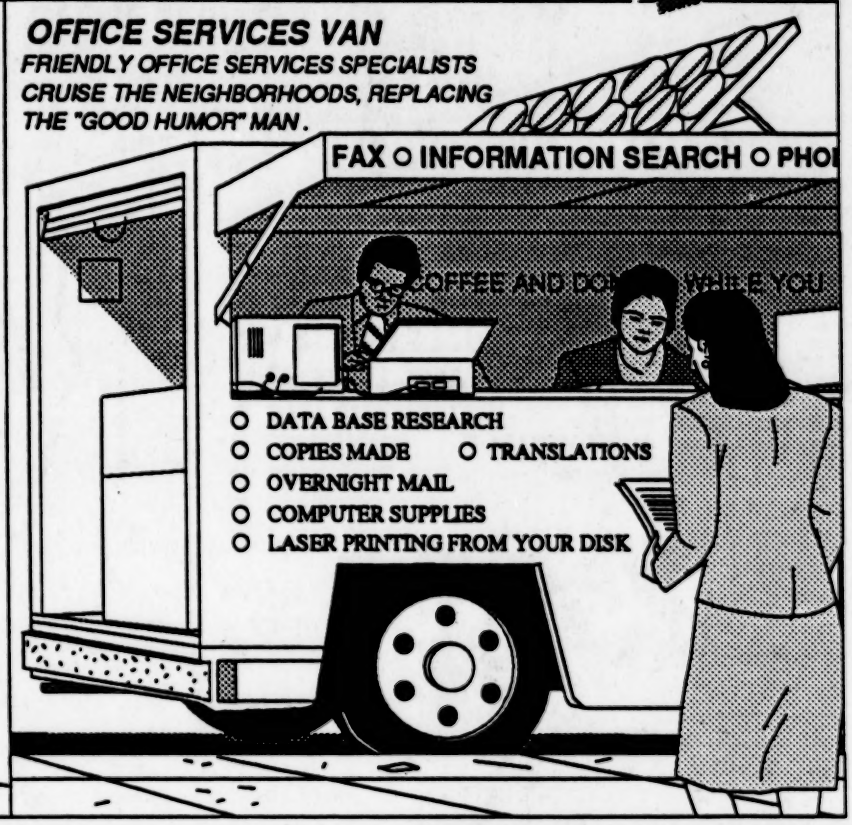
STEVEN M. JOHNSON

THIS RESTLESS, INFORMATION-HUNGRY WORLD HAS PRODUCED COMMUNICATIONS TOOLS WHICH ARE SO EASILY PORTABLE THAT COMMUTER JETS, PRIVATE AUTOS AND BEDROOMS ARE BECOMING OFFICES-OF-THE-MOMENT. A DREAD OF WASTING TIME MAY LEAD TO THE INVENTION OF INTERIM OFFICE KITS OF VARIOUS KINDS, AND MAY SPAWN A CLASS OF ROVING INFORMATION SERVICES PEDDLERS.



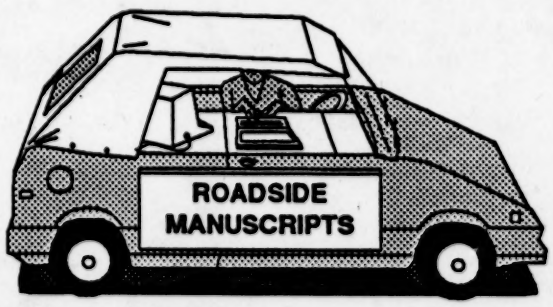
OFFICE SERVICES VAN

FRIENDLY OFFICE SERVICES SPECIALISTS CRUISE THE NEIGHBORHOODS, REPLACING THE "GOOD HUMOR" MAN.



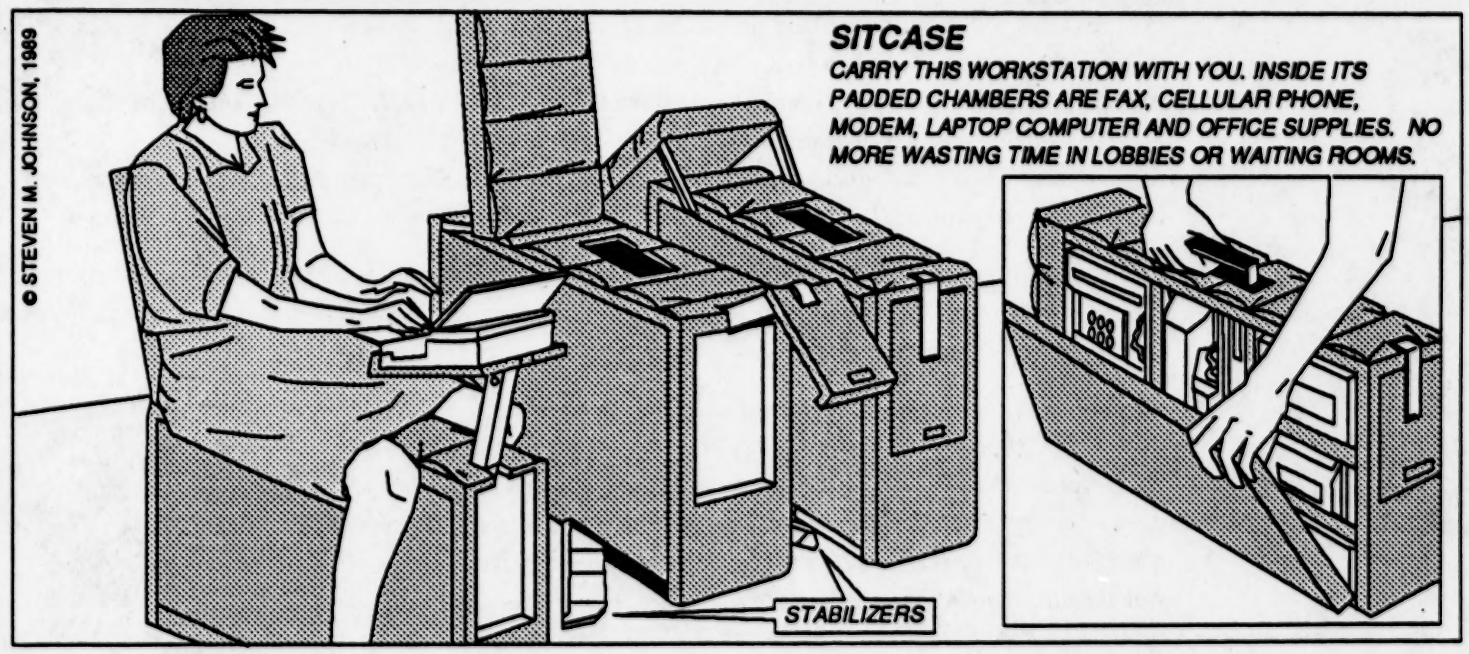
OFFICE -CONVERTIBLE

PULL OFF THE ROAD AND WORK ON YOUR NOVEL, GET N.Y.S.E. STOCK QUOTES, OR SELL OFFICE SERVICES OUT OF YOUR CAR.



SITCASE

CARRY THIS WORKSTATION WITH YOU. INSIDE ITS PADDED CHAMBERS ARE FAX, CELLULAR PHONE, MODEM, LAPTOP COMPUTER AND OFFICE SUPPLIES. NO MORE WASTING TIME IN LOBBIES OR WAITING ROOMS.



Beside being staff artist at *The Sacramento Bee*, Steven M. Johnson is also artist/author of *What the World Needs Now* (1984, Ten Speed Press), a book of his zany inventions. —*Kevin Kelly*

CYBERPUNK ERA

INTERVIEWS WITH WILLIAM GIBSON

Cyberpunk is a waning literary genre that flipped into an ascending cultural forecast. It began as a vague science-fiction sub-sub-culture which thundered into a raging cult movement by the arrival of a book called Neuromancer, *written by William Gibson (WER #44, p. 39) in 1984. The storm-seeding qualities of* Neuromancer *not only brought down a rain of clones, it also retroactively swept up books previously written that were then viewed as cyberpunk classics.*

Bill Gibson and cyberpunk allies (you should know that all the authors involved just about gag when they hear the tag cyberpunk) spin out distinctive scenarios about gritty, not-too-distant futures made of washed-up computer cowboys, Pacific Rim mafias, ganja-smoking software hustlers, genetic surgeons, multinational corporations located in dilapidated city-states, rampant guerilla information undergrounds, contraband brain implants, and the Sprawl — a megalopolis spread from Atlanta to Boston. Timothy Leary calls it "high-tech low life."

Undergirding everything are massive computer networks that keep commerce humming. By plugging 'trodes into their skulls, outlaw hackers cruise through this "virtual landscape," which Gibson has coined "cyberspace." (See page 84).

These worlds are dense, flashy, and texturally vibrant — more like movies than books. In fact this science fiction draws less from either science or other fiction than it does from rock and roll (Lou Reed, Brian Eno, Devo), heavy-metal comic books, and skateboard mags. Going in both directions, echoes of the genre drift through MTV music videos, and performance work by Stelarc (see p. 18), Mark Pauline (p. 40), and movies (Blade Runner, Road Warrior, Max Headroom, Brazil). Also note that Bruce Sterling (p. 50) and this issue's co-guest editor Richard Kadrey are best-selling cyberpunk authors. Cyberpunk style is jump-cut, vernacular, and multi-media crossover.

Blade Runner costumes.

Taking a cue from that, I have assembled a cyberpunk collage of snippets clipped from all the interviews of Bill Gibson we could find in print. In the future an electronic agent will do stuff like this, but not dependably, if I follow cyberpunk's drift.

I find I am less interested in the plots or literary quality of Gibson's stories (the completing two in his trilogy are Count Zero *and* Mona Lisa Overdrive*) than I am in the subtext of how his worlds operate. Imaginary cyberpunk worlds are probably the least futuristic ones in science fiction because they most closely hug the actual dynamics of our present global culture. In the usual versions of the future, men in suits or white coats sit behind closed doors to decide what happens in the world. Far more realistically, cyberpunk universes are driven from the bottom up, by a rabble of underground economies,* verboten *technology, the appetites of teenage fads and fashions, and strong religious beliefs, for instance. It's a future world where voodoo has as much effect as superconductors. I hear cyberpunk saying it's already here. —Kevin Kelly*

MISSISSIPPI REVIEW: *What was the inspiration for the cyberspace idea?*

GIBSON: Watching kids in video arcades. I was walking down my hometown's version of The Strip. Video games weren't something I'd done much, and I'd have been embarrassed to actually go into these arcades because everyone was so much younger than I was, but when I looked into one, I could see in the physical intensity of their postures how *rapt* these kids were. It was like one of those closed systems out of a Pynchon novel: you had this feedback loop, with photons coming off the screen into the kids' eyes, the neurons moving through their bodies, electrons moving through the computer. And these kids clearly *believed* in the space these games projected. Everyone who works with computers seems to develop an intuitive faith that there's some kind of *actual space* behind the screen —

IMPULSE: *In our present society, the speed of information technologies seems to be eroding a sense of identity and cultural history. Do you have any opinions as to how the boosted information flow of the future will affect society and what the forms of adaptation to this condition might be like?*

GIBSON: I think I had something like that in mind in *Count Zero*, with characters like Bobby Newmark, whose sense of self, as conveyed in the narrative voice, is derived almost entirely from third-rate media. Or his mother, who literally lives in an endless soap opera called "People of Importance." Jack Womack's *Ambient* is one recent novel that comes to mind as having dealt with this; his 21st-century proles subsist on a video diet of reruns of "Leave it to Beaver" and "I Love Lucy," without seeming to think of this stuff as being *old*.

INTERVIEW: *How much does your work really have to do with the future, and how much is it a commentary or almost a warning about where we are now?*

GIBSON: I really don't think of myself as a futurist. I'm just trying to make sense of contemporary reality. I think the world we live in is so hopelessly weird and complex that in order to come to terms with it, you need the tools that science fiction develops.

INTERVIEW: *But the world that you've created doesn't seem very far-fetched.*

GIBSON: It's based in contemporary reality, but I think it's more accurate in an iconic sense than as a map of where we're going. I'd be very surprised if we wound up somewhere that interesting. I don't think about the real future very much. When I do, I get depressed. *[laughs]* I think that my books are optimistic in an odd way. Things could be worse. The future in my books would be a neat place to visit, as opposed to, say, a power-starved North America ruled by Christian-fundamentalist television people. That's a scenario I find a lot less intriguing. My books contain a lot of things that I like about the world.

INTERVIEW: *Such as?*

GIBSON: There's a sense of bustling commerce. There seems to be a lot of money around. It's not very evenly distributed, but people are still doing business.

INTERVIEW: *Yet it's also nihilistic, isn't it? There's a part that's very bleak.*

GIBSON: Well, there's a part of the world we know out there that's very bleak. We just aren't sitting in it. A lot of LA is as bleak as it can get, but those parts we don't even see. So the bleak aspect is just my attempt at realism.

INTERVIEW: *Your books are very erotic. People put trodes on their heads and "jack in" electronically to one another's brains. Future sex seems to have a lot to do with people* not *touching each other.*

GIBSON: They touched a bit in *Neuromancer*, but that was written in 1982. It seems hopelessly dated. People wandered around having casual sex like something out of another era. So I had to backpedal a bit.

INTERVIEW: *There's a line in* Burning Chrome: *"Torn between meeting someone and wanting to be alone at the same time, which has probably always been the name of that particular game even before we had neuroelectrics, everyone wants to have it both ways."*

GIBSON: Right. The gimmick in *Burning Chrome* was just that kind of consciously metaphoric prostitution.

INTERVIEW: *But do you think that people would have sex neuroelectronically if they could?*

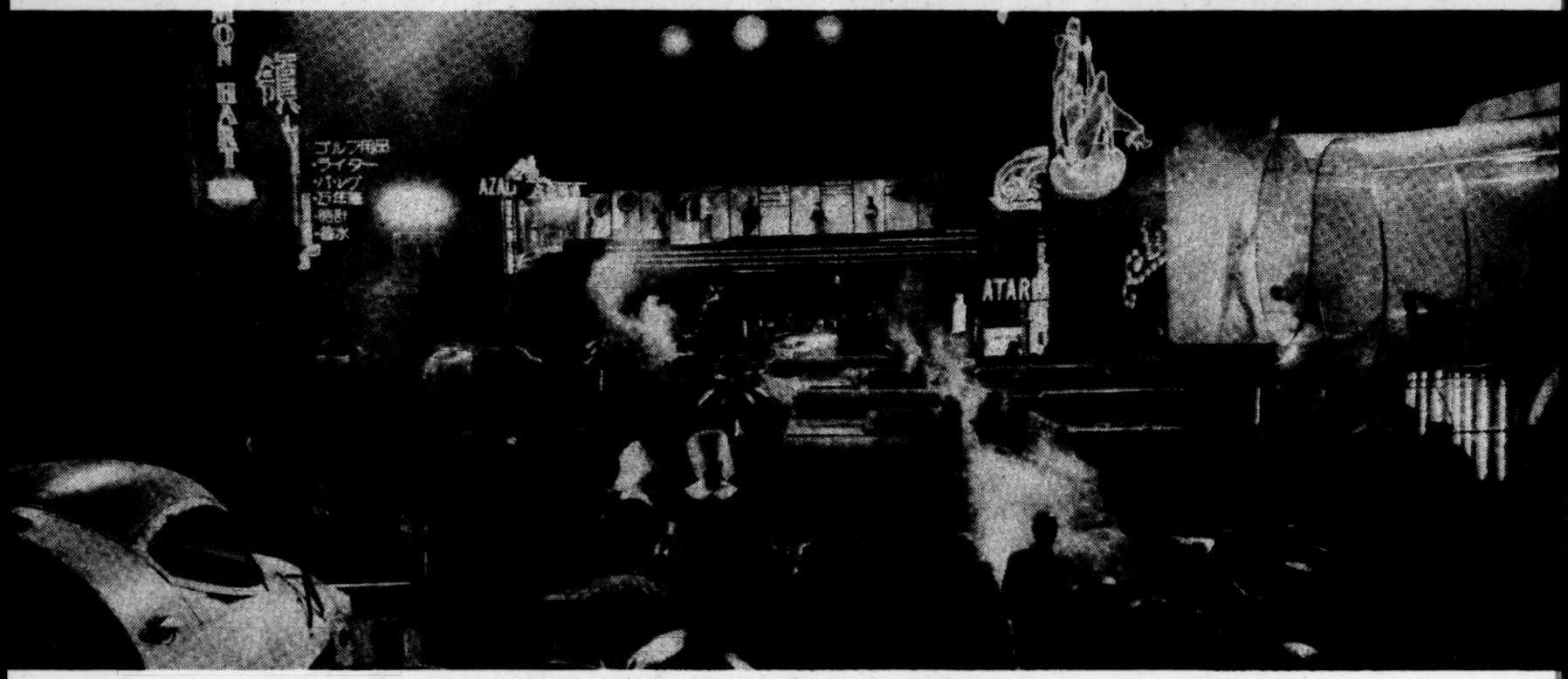
GIBSON: Absolutely. People are almost trying to do it over the phone today. Phone sex didn't exist a couple of years ago, really, and it strikes me as horribly sad. They're going great guns, especially in LA. They're advertising conversation lines on television all the time.

IMPULSE: *You focus a lot of interest on subcultures in your novels. Is there anything that you find especially interesting in the subcultures of today?*

GIBSON: I like the idea of subcultures generally. It makes things more interesting. Marginally more interesting. Though actually hanging out with anyone whose sense of identity is primarily subcultural tends to be pretty dull.

IMPULSE: *How did you get involved in writing science fiction? Was it a conscious decision or has it always been a fascination?*

GIBSON: Neither, really. There was an element of real compulsion, though I didn't think writing



***Blade Runner* street scene.**

science fiction was a particularly cool thing to do. Quite the opposite; it felt terminally geeky. It seemed to come from way down, though. Science fiction pretends to be "about the future," but apprehending the present (AIDS, the greenhouse effect, bits of Chernobyl in your salad) seems to require the whole science-fiction toolkit now.

THE BLOOMSBURY REVIEW: *You seem to consider yourself a science-fiction writer, and I had been to a certain degree avoiding the term because a lot of writers who write what would normally be considered science fiction do not want to be called science-fiction writers. They consider it a handicap.*

GIBSON: It hasn't been a handicap for me. As far as I know, I've reached exactly the audience that I would have wanted to reach, plus the science-fiction audience as well. I don't know why that worked out, but if you're selling reasonably well as a science-fiction writer in the States these days, you're getting quite a lot of exposure and you're reaching a lot of people. And I think if I'd been writing these books and publishing them as a sort of avant-garde mainstream literature, relatively few people would have heard of them. . . .

When I started doing this I thought, oh, Kurt Vonnegut was right, you should never let them put a SF on the label, but I think the rules of the game have changed slightly.

One of the great things about writing science fiction today is that you not only have access to the latest so-called advances in avant-garde literature, but you have access to all the stuff that isn't fashionable in the broader field of literature. The thing I love about science fiction is that you can do anything you want. One person can sit down and come up with the most off-the-wall possible moves, and he'd get it published and be paid a pittance for it.

SCIENCE FICTION EYE: *For instance, how about the book* Easy Travel to Other Planets? *Title notwithstanding, it isn't exactly a science-fiction novel, [and] it's not about space travel.*

GIBSON: You're right. It's not about space travel. But it's a fascinating book, because the guy's obviously absorbed Ballard and Dick and a whole lot of other things, and sort of kicked it out. I was also very impressed by the end of the book where he listed all the sources he'd plagiarized. He didn't say, copyright this, he said I stole this line from some Aretha Franklin song, he lists all these things. It's probably the best part of the book. In a way. I thought, shit, I should have done that in *Neuromancer*, like Lou Reed wrote this. . . .

SCIENCE FICTION EYE: *The Intertext.*

GIBSON: Yeah, the intertext. I'm thinking of writing an intertext for *Neuromancer* for *Foundation*. Ian Watson's after me, do a little annotated bit saying this came from that.

THE BLOOMSBURY REVIEW: *Do you think your use of technology affects your art? I understand that* Neuromancer, *that high-tech novel, was written on a manual Underwood typewriter. Are you still using it? It doesn't sound like it.*

GIBSON: I have a primitive, relatively anachronistic, little word processor now. That's a good question. I wouldn't go back to a manual typewriter, although I'd never lose files. I don't think that's affected me as much as having a new car that actually works.

THE BLOOMSBURY REVIEW: *You think that affected your writing?*

• Friday night on Ninsei.

He passed yakitori stands and massage parlors, a franchised coffee shop called Beautiful Girl, the electronic thunder of an arcade. He stepped out of the way to let a dark-suited sarariman by, spotting the Mitsubishi-Genentech logo tattooed across the back of the man's right hand.

• Her destination was one of the dubious software rental complexes that lined Memory Lane. There was a stillness, a hush. Booths lined a central hall. The clientele were young, few of them out of their teens. They all seemed to have carbon sockets planted behind the left ear, but she didn't focus on them. The counters that fronted the booths displayed hundreds of slivers of microsoft, angular fragments of colored silicon mounted under oblong transparent bubbles on squares of white cardboard. Molly went to the seventh booth along the south wall. Behind the counter a boy with a shaven head stared vacantly into space, a dozen sticks of microsoft protruding from the socket behind his left ear.

"Larry, you in, man?" She positioned herself in front of him. The boy's eyes focused. He sat up in his chair and pried a bright magenta splinter from his socket with a dirty thumbnail.

"Hey, Larry."

"Molly." He nodded.

"I have some work for some of your friends, Larry."

Larry took a flat plastic case from the pocket of his red sportshirt and flicked it open, slotting the microsoft beside a dozen others. His hand hovered, selected a glossy black chip that was slightly longer than the rest, and inserted it smoothly into his head. His eyes narrowed.

—*Neuromancer*

• She was sixteen and SINless, Mona, and this older trick had told her once that that was a song, "Sixteen and SINless." Meant she hadn't been assigned a SIN when she was born, a Single Identification Number, so she'd grown up on the outside of most official systems. She knew that it was supposed to be possible to get a SIN, if you didn't have one, but it stood to reason you'd have to go into a building somewhere and talk to a suit, and that was a long way from Mona's idea of a good time or even normal behavior. —*Mona Lisa Overdrive*

GIBSON: No, but it's affected my perception of reality, which is essentially the same thing. With the computer, while it's wonderful, it's like having a power saw where you used to have to saw all those two-by-fours by hand. The non-professional things I can do with it haven't had much impact at all. As far as accessing bulletin boards or using it to do graphics — not that it can do graphics — I don't find that very appealing. But having a car that works, that one can drive around, changes one's view of one's environment. I think things like that have a more direct impact on me.

MISSISSIPPI REVIEW: *So your use of computers and science results more from their metaphoric value or from the way they sound than with any familiarity with how they actually operate.*

GIBSON: When I wrote *Neuromancer*, I didn't know that computers had disk drives. Until last Christmas [1985], I never had a computer; I couldn't afford one. When people started talking about them, I'd go to sleep. Then I went out and bought an Apple II on sale, took it home, set it up, and it started making this horrible sound like a farting toaster every time the drive would go on. When I called the store up and asked what was making this noise, they said, "Oh, that's just the drive mechanism — there's this little thing that's spinning around in there." Here I'd been expecting some exotic crystalline thing, a cyberspace deck or something, and what I'd gotten was something with this tiny piece of a Victorian engine in it, like an old record player (and a *scratchy* record player at that!). That noise took away some of the mystique for me, made it less *sexy* for me. My ignorance had allowed me to romanticize it.

One of the reasons, I think, that I use computers in that way is that I got really interested in these obsessive things. I hadn't heard anybody talk about anything with that intensity since the sixties. It was like listening to people talk about drugs.

I didn't invent most of what's strange in the [books'] dialogue. That's just more collage. There are so many cultures and subcultures around today that if you're willing to listen, you start picking up different phrases, inflections, metaphors everywhere you go. A lot of the stuff in *Neuromancer* and *Count Zero* that people think is so futuristic is probably just 1969 Toronto dope-dealers' slang, or bikers' talk. I borrow a lot.

MISSISSIPPI REVIEW: *Some of the phrases you use in* Neuromancer *— say, "flatlining" or "virus program" — have a feel of poetry to them.*

GIBSON: But they *are* poetry! "Flatlining" is ambulance-driver slang for death. I heard it in a bar maybe twenty years ago, and it stuck with me. A drunken, crying ambulance driver saying, "She flatlined." I use a lot of phrases that seem exotic to everyone but the people who *use* them. Oddly enough, I almost never get new buzzwords from other SF writers. I heard about the "virus program" from an ex-WAC computer operator who had worked in the Pentagon. I heard her talking one night with her girlfriend about guys who come in every day and wipe the boards of all the video games people have built into their systems. People who worked there were building these little glitch-things that would run around trying to evade the official wipers — things that would hide and then pop out and say, "Screw you!" before vanishing back into the framework of logic. (Listening to me

trying to explain this, it immediately becomes apparent that I have no grasp of how computers *really* work — it's been a contact high for me.) Anyway, I remember the one WAC saying that what they were really afraid of was "virus programs." Somehow through the haze of beer, a bell went off, and I said, "What's a *virus program*, anyway?" and so she gave me a rundown. But it wasn't until after the book came out that I actually met people who really knew what that was.

I think what I did was, I used the academic stuff that I got from studying modern poetry in university to deconstruct hacker-speak, I sort of deconstructed the jargon and built my own reality of computers out of it, and a whole bunch of it seems to have worked. It's something to do with words and meaning. It's kind of mysterious to me, but I can see how it happened. I'll probably never be able to do it again, and if I'd actually known anything about computers, I doubt if I'd been able to do it. I was getting computers through advertising. Not the reality of Apple computers, but the way Apple presents a computer to you, and it's really sexy.

HIGH TIMES: *Is that the way your mind works — absorbing things like flypaper?*

GIBSON: Well, it would if I weren't so lazy. But yeah, I think that's a fairly common state for writers. . . . It's a very intuitive process, this unwinding of memory. That's what the computer metaphor in my books is about, really, human memory — the how and the why of remembering. I think we *are* memory in some ways; without it we wouldn't be ourselves. Yet it is so easily subject to revision.

HIGH TIMES: *And therefore reality is subject to revision as well?*

GIBSON: Yeah, I think so. That's been the main undercurrent of psychiatry for the past 50 years or so, this revision of memory and getting back to first causes. At the other end, we are approaching the point of downloading human consciousness into some sort of artificial matrix.

HIGH TIMES: *Downloading what? Information, or actual consciousness?*

GIBSON: That's where I get lost . . . seems to me that information — memory — and consciousness are perhaps the same thing. But it's kind of like cloning in that we're talking about making multiple copies of human consciousness, and downloading them into anything — other bodies, robots, or Alfa Romeos, even. It's things like that that make my head hurt when I sit down and think about them.

INTERVIEW: *What do you hope the future will be like for your children?*

GIBSON: Well, I hope it will be there. I'm remarkably free of utopian fantasies. I've never really thought about what I would ideally like the future to be. I suppose I'm reactionary in this regard, but I'd like it to be as much like the present as possible. Of course, I'm sure it won't be. It'll be some inconceivable thing.

I've had a fantasy for years about phoning myself somehow in 1968 or, more remotely, phoning my father back in the 1950s and having a conversation. If you think about phoning yourself in 1968. . . . The things you would have to explain. Imagine a kid in 1968 saying, "Did we get to the moon?" And you say, "Yeah, but nothing came of it. It's just like a television show." "Did we win the sexual revolution?" "Well, sort of."

INTERVIEW: *In your writing the power source is often in the hands of the Japanese, isn't it?*

GIBSON: The Japanese have the money right now. I expect these books will look very quaint in ten years, because the future is always infinitely stranger. It's been proven in my own lifetime, at least to my satisfaction, that the future is weirder than anything I or anyone else could ever dream up. Things like AIDS and the idea that the ozone layer is in part evaporating because of little plastic hamburger boxes in fast-food joints. Who could have dreamed that one up? It sounds like something from a 1950 science-fiction story. ■

The Intertext

The sources for this collage interview:

Interview, January 1989, "William Gibson Talks to Victoria Hamburg."

Bloomsbury Review, vol. 8, issue 5, "The Culture of Cyberspace, An Interview with William Gibson," by Leanne C. Harper.

Mississippi Review, vol. 16, numbers 2 & 3, "An Interview With William Gibson," by Larry McCaffery.

High Times, November 1987, "William Gibson Interview."

Science Fiction Eye, vol. 1, number 1, "An Interview With William Gibson," by Takayuki Tatsumi.

Impulse, Winter 1989, "William Gibson interviewed by Doug Walker."

Research by Lori Woolpert.

The *Blade Runner* future: high technology in decline.

Cyberpunk 101 Reading List

Here's a quick list of the books that helped to shape cyberpunk ideology, and books by the cyberpunks themselves, in roughly chronological order. — Richard Kadrey

Last and First Men (Olaf Stapledon, 1937, Dover)
Hardly a novel at all. More like a long, brilliant encyclopedia essay on the next million-or-so years of human evolution.

The Big Sleep (Raymond Chandler, 1939, Random)
Chandler's smooth, polychromatic prose style, and vision of the detective as knight errant has influenced more than one cyberpunk.

The Stars My Destination (Alfred Bester, 1956, Watts)
Body modification, corporate intrigue, baroque settings and characters, and a walk down the gray line that separates criminals from the straight world. But it's the protagonist's purely anarchic belief in humanity that makes this book remarkable. This remains one of the few truly subversive novels ever to come out of science fiction.

Naked Lunch (William Burroughs, 1959, Grove)
A blast of maniacal laughter from Hell. A combination of comedy as black as clotted blood, Dr. Benway's twisted medical speculations, tales of the criminal underground, and sexual fantasies that tear at your inseams like a rabid brontosaurus, all told in a fragmented prose style that still reads like the raw, beautiful poetry it is. The influence of this book is enormous. Without **Naked Lunch**, there would probably be no cyberpunk.

Do Androids Dream of Electric Sheep? (A.K.A **Blade Runner**, Philip K. Dick, 1968, Ballantine)
Renegade androids escape to earth from off-planet, and robot killer Decker must track them down. Identity is the big question here: who is more human, the androids who want to live or the cop who wants to kill them? Basis for the film **Bladerunner**.

Nova (Samuel Delany, 1968, Out of print)
Stylistically, the bridge between the baroque 1950s SF of **The Stars My Destination** and the harder-edge worldview of **Neuromancer**. A space opera full of feuding families and oddball characters, but with a respect for the science that makes it all run.

The Cornelius Chronicles, Volumes 1 , 2 and 3 (Michael Moorcock, 1969, Avon)
The semi-complete story of the life/lives of Jerry Cornelius, Nobel Prize winning scientist and rock & roll musician. The existential plotting, ambiguous sexuality of the main characters, and general low-life/high brow feel makes these very important works in the canon.

Future Shock (Alvin Toffler, 1970, Bantam)
Information increases and comprehension decreases. Sound familiar? Get ready. The future is only going to get weirder.

The Atrocity Exhibition (J.G. Ballard, 1969, Out of Print)
Ballard studied medicine while in college and it shows here. Through a series of fragmented "compressed novels," Ballard traces the breakdown of a doctor at a mental hospital.

Dog Soldiers (Robert Stone, 1973, Penguin)
Stone's post-Beat prose style and vision of America as a morally bankrupt party town tearing itself apart is as harrowing as Conrad's "Heart of Darkness." The difference is that like most cyberpunk, the action in **Dog Soldiers** could be happening right next door.

Gravity's Rainbow (Thomas Pynchon, 1973, Penguin)
The best cyberpunk ever written by a guy who didn't even know he was writing it. Pynchon's most difficult (and rewarding) book puts you into the bad brains of soldiers, scientists, hookers, losers, etc., during World War Two, when science was about to Change Everything.

Shockwave Rider (John Brunner, 1975, Del Rey)
When people are little more than bytes in the government data stream, can anyone remain human? Fugitive Nickie Heflinger wants to find out, and change a few things.

Blood and Guts in High School (Kathy Acker, 1982, Grove)
Her influence is similar to that of Burroughs and Moorcock, but Acker started out as a poet, so her prose is infused with the poet's lust for words. That and her moral outrage make her very important. If Genet had sung for Black Flag, he might have sounded like this.

Frontera (Lewis Shiner, 1984, Pocket Books)
The first privately funded mission to Mars after the collapse of NASA turns nightmarish when the protagonist, Kane, finds himself programmed to bring something back to Earth, at any cost.

Neuromancer, Count Zero, Mona Lisa Overdrive (William Gibson; 1984, Ace; 1986, Ace; 1988, Bantam)
The evolution of the Matrix, a computer-generated reality created by data from all the world's computers, and the lives of those that live in and through it.

Mirrorshades (ed. by Bruce Sterling, 1986, Warner Books)
Could be subtitled "A Young Person's Guide to Cyberpunk." The first and still definitive collection of cyberpunk short fiction.

Blood Music (Greg Bear, 1985, Ace)
A renegade gene hacker injects himself with his own experimental microorganisms and gets up close and personal with Information Theory and a too, too malleable reality. Visually, this book is worthy of Salvador Dali.

Mindplayers (Pat Cadigan, 1987, Bantam)
Deadpan Allie is a sort of future psychiatrist who works on her patients by entering virtual representations of their psyches.

When Gravity Fails (George Alec Effinger, 1987, Bantam)
Petty criminals in a post-superpower Arab world augment themselves with designer drugs and personality chips in a Chandleresque murder mystery.

Eclipse, Eclipse Penumbra, Total Eclipse (John Shirley, 1985, 1987, 1989, Warner Books)
A large-scale story on the re-emergence of fascism as a major political force, told in a vivid, hallucinatory prose style.

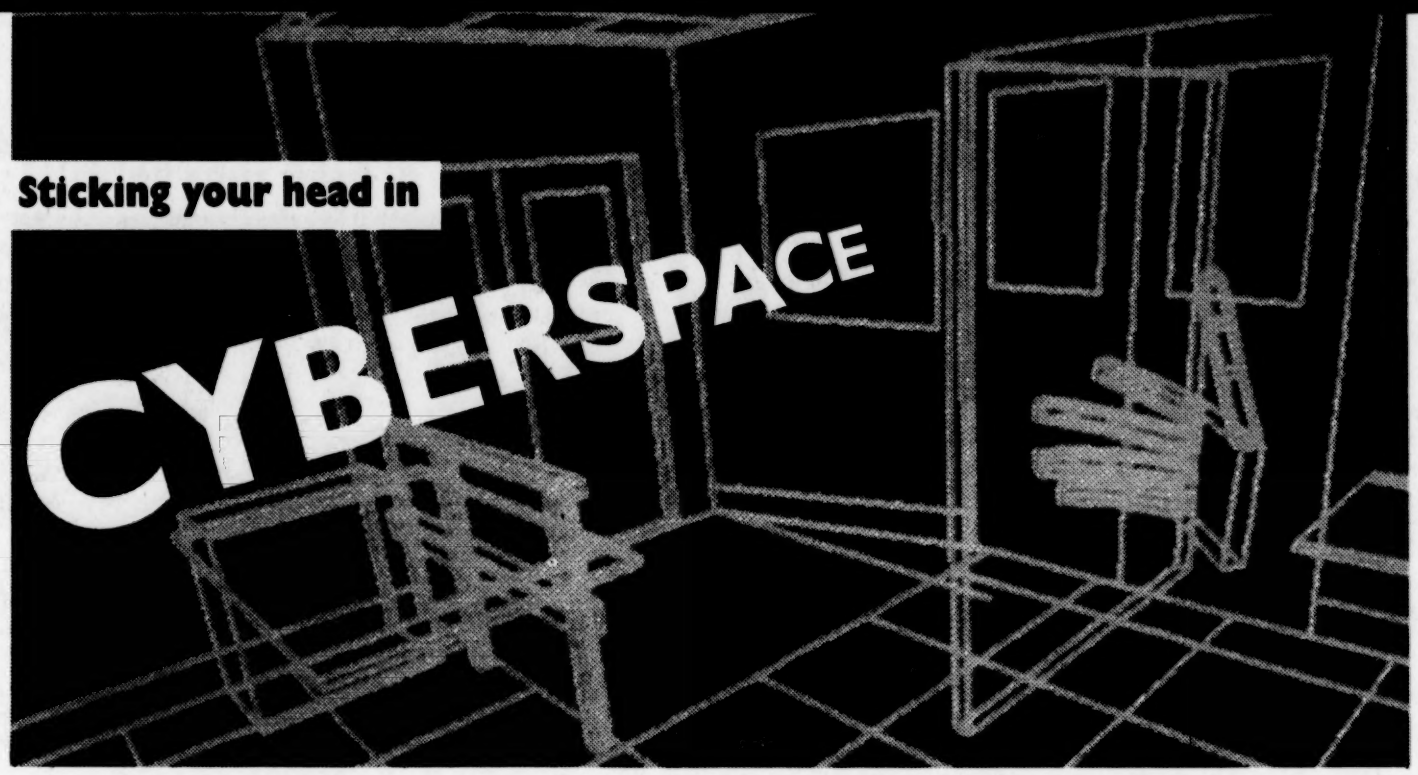
Islands In The Net (Bruce Sterling, 1988, Morrow)
A thoughtful extrapolation of a future in which nuclear weapons have been banned and information is the most valuable commodity. Don't overlook Sterling's other cyber books, **Schismatrix** and **The Artificial Kid**.

Metrophage (Richard Kadrey, 1988, Ace Books)
Art and crime meet, literally, in the streets when a strange virus hits Los Angeles. What can I say? I wrote this one.

Wetware (Rudy Rucker, 1988, Avon)
Sentient robots ("boppers") on the moon want to interface with human beings and create the first "meatbop." This book recently netted Rudy his second Philip K. Dick award.

Sticking your head in

CYBERSPACE



NASA

I have seen the future, and flew in it!

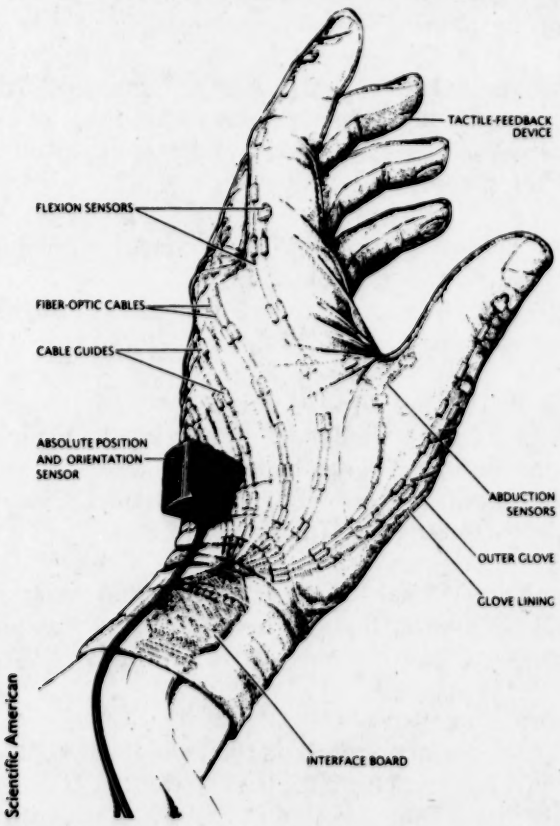
With friends from Autodesk [makers of software for 3-D drafting] I went to NASA Ames Research Center south of San Francisco and tried on Mike McGreevy's "Head-Mounted Display System." It is truly immersion in virtual reality.

The head rig (more ephemeral than a helmet) presents each eye (therefore 3D) with a black and white wire-frame scene in which one can move by moving one's body in real reality. Head and body motions are picked up by a magnetic sensor overhead and translated into appropriate movement in the virtual scene. The demo we saw had a virtual version in the display of the actual room we were in, with walls, a ramp over THERE, a partition sticking out THERE, low ceiling, etc. This was handy for preventing the virtual realist from walking into actual walls, but since the people in the crowded room weren't represented in the display, ecstatic explorers in the virtual room kept bumping into people in the real room.

In the virtual space also was a disembodied hand, representing one's own hand, which was instrumented with a DataGlove and a position indicator. So you could reach around in your virtual reality and pick up things, or, by choice, reach right through things. One demo had one's hand reaching into a swirling model of the flow of gases in the Shuttle Main Engine, able to tweak the flow with one's fingers.

The first thing most of us did when we arrived in virtual reality was study our own hand, looking for all the world like stoned kids: "Have you ever really, REALLY looked at your hand!!?"

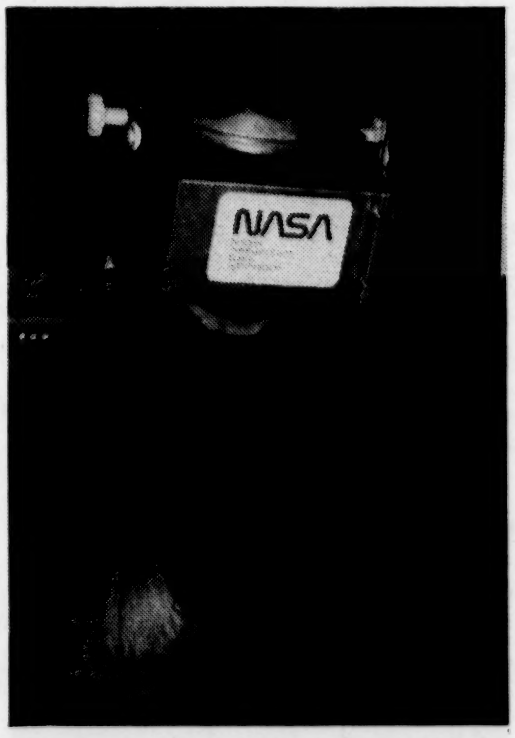
Also the hand could make gestures that become commands. If you made a fist and pointed your index finger,



Scientific American

(Right) The almost-universal response to wearing a cyberspace helmet is "Hey, I don't want to take this off!" A visitor to the NASA lab contemplates his cyber-hand.

(Left) The DataGlove translates hand and finger movements into electrical signals. Fiber-optic cables running along the fingers produce a signal when they are flexed. The dark protuberance on the back of the hand beams a signal which indicates the position of the hand proper in the room.



Stewart Brand

you FLEW toward wherever you were pointing. Point up, for example, and you ascend through the virtual ceiling. If you look down while doing that, you see the room getting smaller and smaller below you in the distance. Then you could swoop back down into it, soar around, fly through the floor, etc.

I lost my body almost instantly, except as a command device (ultimate mouse), and thoroughly enjoyed life as an angel. Oh wings of desire. —*Stewart Brand*

Stewart Brand

The experimental NASA helmet consists of a counter-balanced stereo viewing screen (what the viewer sees is displayed on the monitor in the background) and an electromagnetic location pole.

'TRODES

Known as 'trodes in futuristic cyberpunk literature, electrode implants in the brain already have a half-measure of reality in several current experiments. The most promising is a device for severely speech-disabled people who also lack the motor control needed to operate a keyboard. A person plugged into this selects letters on a screen by means of looking at them, or what is called in the trade "gaze access." Earlier attempts at visual cues involved tracking the physical movement of the eye, but this didn't work well because one couldn't move one's head or wear glasses while doing so. In "gaze access," a shallow electrode is placed near the part of the brain processing visual information, and the resultant signal is analyzed by computer.

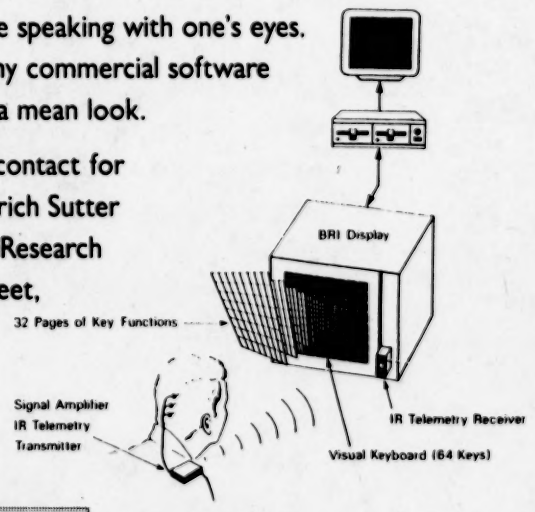
Neural pathways connecting the eye to the visual areas of the brain's cortex strongly favor the very center of the eye's visual field, which is used to discern fine detail. By selecting the strongest signal detected, the apparatus decides where the person is looking. This method can drive various controls, including a word processor.

To use a 'trode-driven word processor, one gazes at a screen which displays the alphabet. Since the eye responds better to moving or flickering images, the letters alternate in red/green colors at a distinctive frequency. To pick a letter you stare at it. The signal travels from the back of your eye to your brain, then through the electrode to the computer and finally is displayed on the screen as an asterisk next to the presumably correct letter. Gazing at the "delete" symbol undoes an erroneous response. A message is spelled out by looking at the displayed screen's letters in sequence. Stored in a temporary buffer, the text can be sent through a speech synthesizer to produced a spoken message.

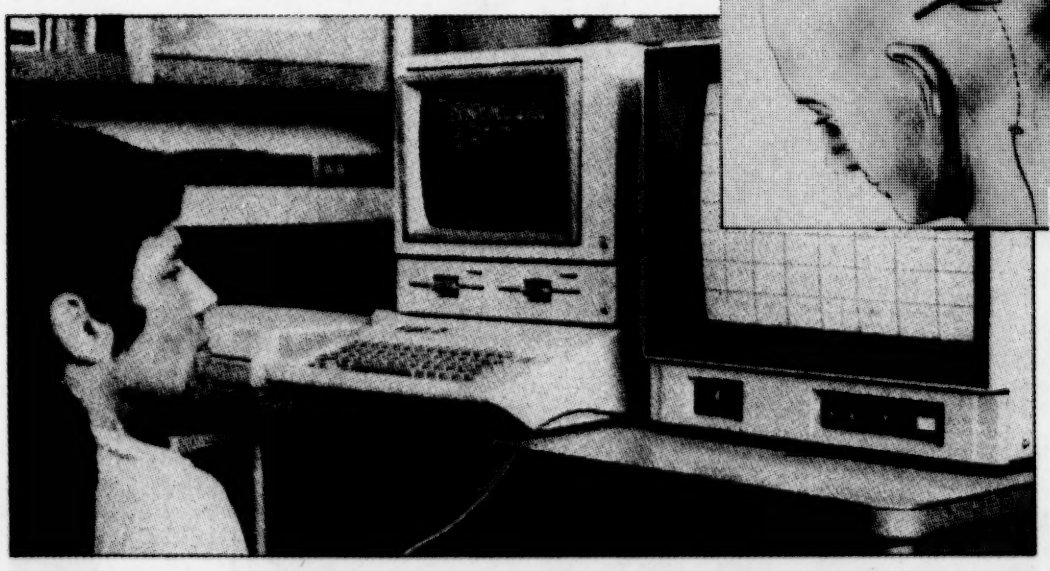
One is not confined to mere speaking with one's eyes. With the system in place, any commercial software product can be driven with a mean look.

The chief experimenter to contact for further information is Dr. Erich Sutter at the Smith-Kettlewell Eye Research Institute, 2232 Webster Street, San Francisco, CA 94115; 415/561-1620.

—Kevin Kelly



Electrodes are planted in the skull just outside the brain's membrane in order to filter out the electrical interference from neck and face muscles.



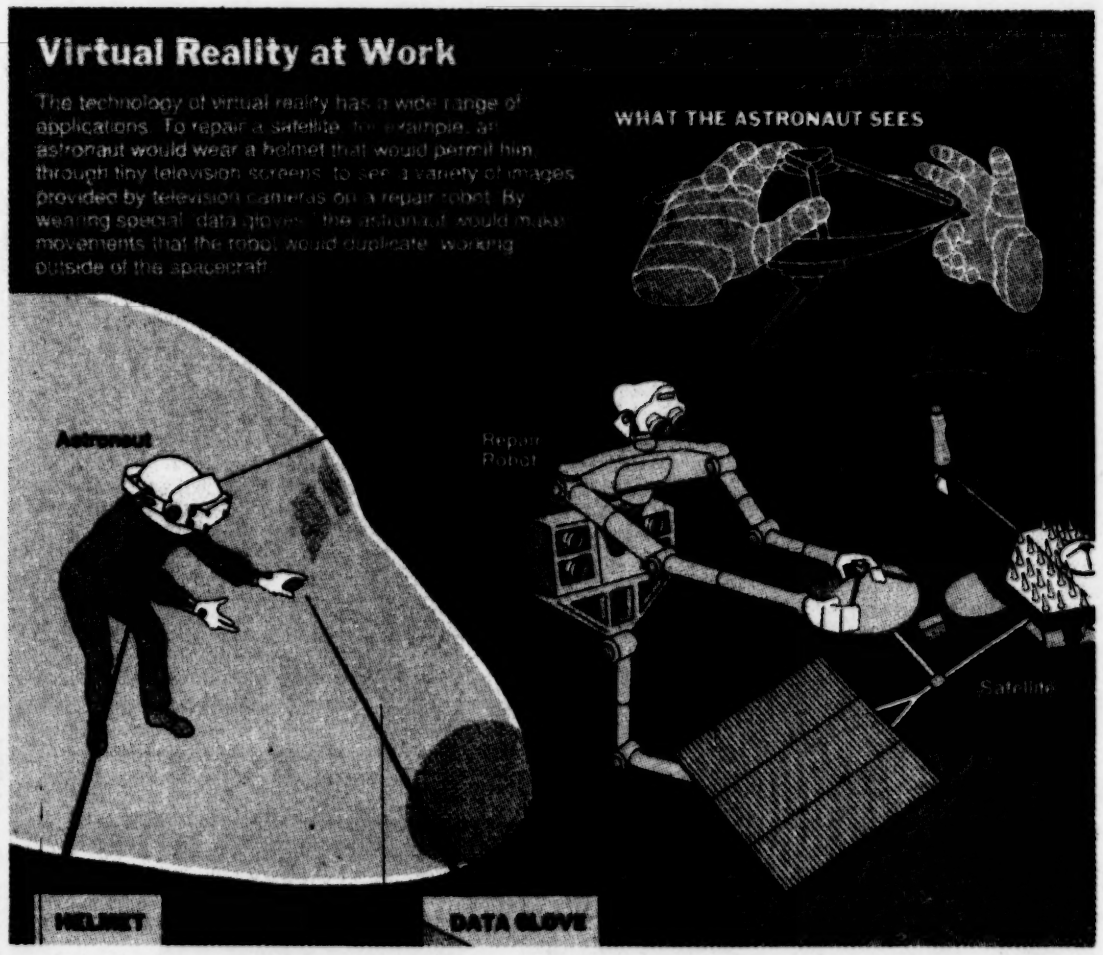
Smith-Kettlewell

Lance Meagher, a severely disabled doctor in Oregon, has had a degenerative brain disease (ALS) in his cortex for the past twelve years. He can now spend up to ten hours a day writing on his 'trode-driven word processor. Meagher hopes to resume aircraft flying someday.

VIRTUAL WORLD SICKNESS

I always get a nice rush when I hear about the emergence of the first ailment of a wholly new concept. It means that the idea has some reality. A dream is not real until it has disadvantages, tradeoffs, and side effects. Listen to this report in the Feb. 20, 1989, issue of *The New York Times* titled "Sickness in the Cockpit Simulator." Artificial reality has arrived.

"The incidence of an illness known as simulator sickness appears to be growing among military pilots who spend long sessions at sophisticated computerized airplane simulators. Although the causes remain poorly understood, the illness appears to be related to conflicting sensations.



The New York Times/Steve Hart

"The problem has become severe enough that the Army, Navy and Marine Corps now restrict their pilots from flying real airplanes for periods ranging from 6 to 24 hours after a simulator session because of flashbacks, visual distortions and physical disorientations reported by pilots.

"People who've spent a lot of time on simulators have difficulty driving home," said Herschel Leibowitz, a psychologist at Pennsylvania State U. who is considered an expert on simulator sickness and related problems.

[...] Simulator sickness was first documented in the late 1950s, but its incidence has mushroomed in the past decade as simulators proliferated and became more elaborate. Navy surveys of 10 different simulators show symptoms of simulator sickness in 10 percent to 60 percent of pilots; an Army survey of its AH-64 Apache helicopter simulator, one of the newest and most sophisticated, showed a 44-percent rate of incidence.

[...] "The malady is both polygenic and polysymptomatic; that is, it has many causes and produces many different symptoms in different individuals. But most experts agree that the root of the problem is "cue conflict," which occurs when the body's senses receive information in conflict with each other or with the mind's expectations based on experience.

[...] "Time lags in the system throw some people off, and a disparity between the motion experienced in real aircraft and that of the simulator can also produce simulator sickness. This may explain survey results showing that experienced pilots, who have a more deeply ingrained memory of aircraft behavior, more often experience symptoms than aviators with limited flying time.

[...] "The syndrome has become more prevalent as simulators have improved, leading some researchers to believe that the closer a trainer mimics reality, the more disturbing the disparities become. As long as a visual display remains cartoonlike pilots do not take it seriously, but when it becomes compellingly real, conflicts arise."

It's that last statement that does it for me. Reality as a binary state: either, or. One wonders, to paraphrase the beer commercials, how real real has to get?

—Kevin Kelly

I can see it coming. Kids will be competing to see how many violently different realities they can handle simultaneously, and us old fogies who can only manage one or two per day will be truly old and in the way. Don't jostle me, boy.

—Stewart Brand

AUTOCEREBRESCOPE LANDSCAPES

An autocerebrescope is sort of an ultimate biofeedback machine, one that would allow you to watch your own mind in real time. It is an imaginary, though not unlikely, machine devised by philospher Daniel Dennett. I immediately wanted this thing to work in cyberspace. What you do is put on a heads-up helmet and walk into your brain as it is going, and poke around watching it purr or tick or hum or whatever it does. Minsky, in *The Society of Mind,* finds this kind of fiddling extremely dangerous, and I bet it is. You can imagine getting stuck in some amazing feedback vortex, where you are mesmerized by something that won't let your mind go away to the point where you need to go to wake up. *OOOooo . . .*

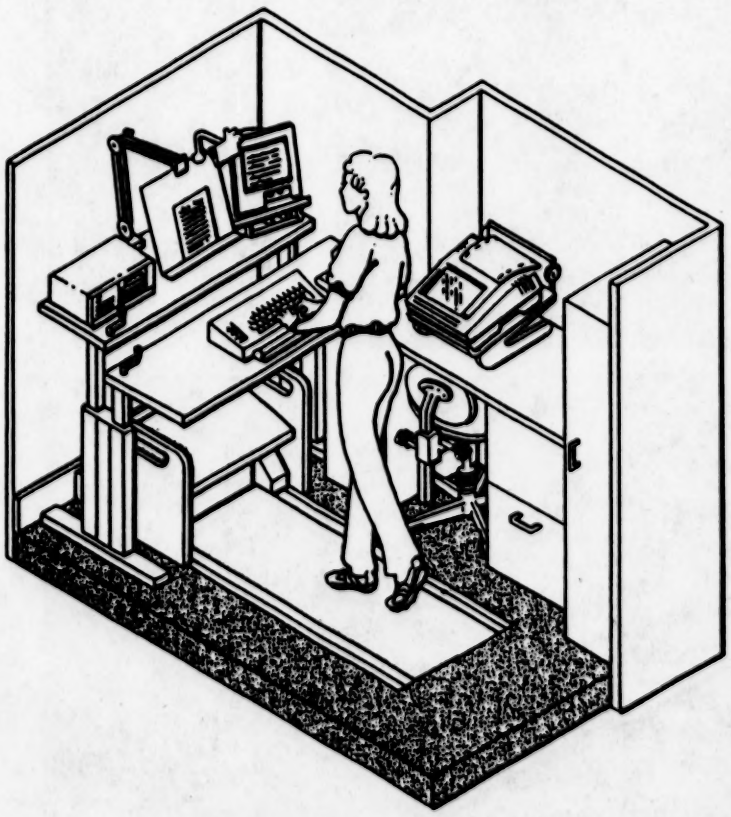
"Him? Oh, he's on a Catch-22 cruise. He went down to watch his stem and never came back." Nonetheless, it would be a world fit to explore. Perhaps you'd have to have a buddy system going, where you never go alone, and going alone becomes the ultimate metaphor for foolishness. "He's so dumb he watched the back of his eyeballs by himself."

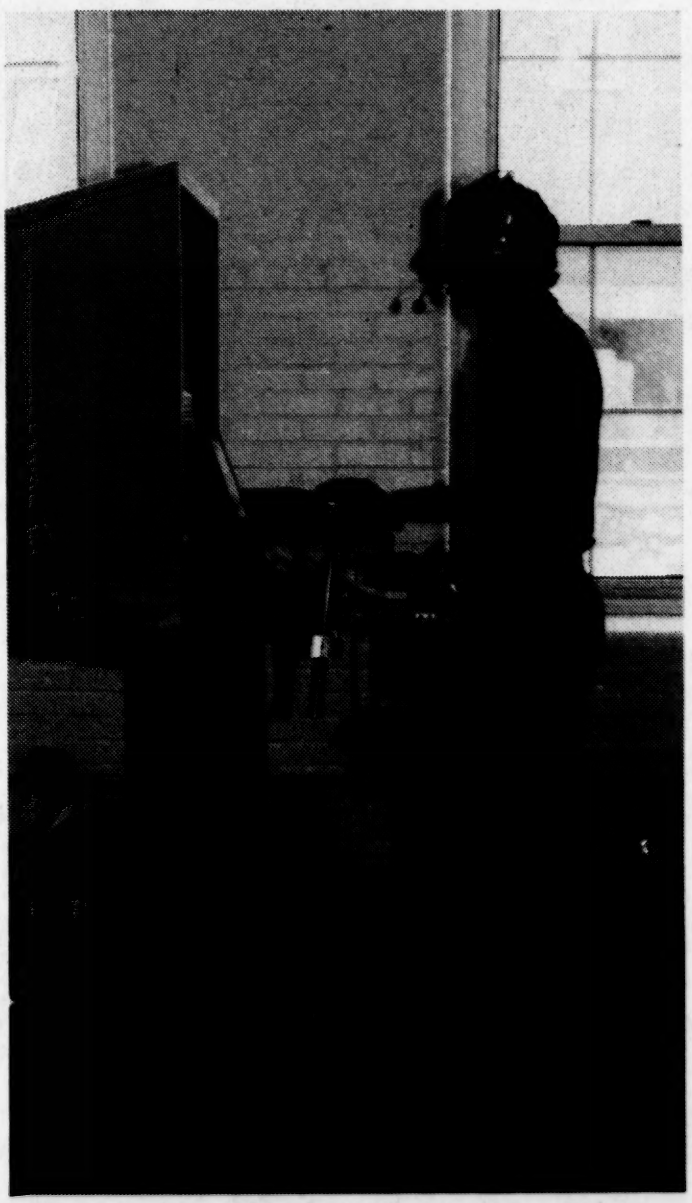
The autocerebrescope cyberspace would not merely model the brain. Rather it would be an interactive cyberspace that would visualize mind functions and lay them out in a variety of landscapes. Folks might have their own interpretation of what their mind looks like. Gardens. File cabinets. Frontier towns. "Would you like to come up to my apartment and see my mind? Excuse the mess in my id, please." Visiting other minds might be like sex, but there are (masturbatory?) thrills that must only be found in roaming through one's autocerebrescope cyberspace. —Kevin Kelly

OFFICE TREADMILL

I'm not sure whether this apparatus is a sensible solution for desk-bound knowledge-workers or a devilish purgatory for having an obsolete body. The inventor offers a push-pedal version as well as bibliographies of research which suggests more office efficiency while exercising. Let us know whether this contraption brings you to 2001 or to 1984. —Kevin Kelly

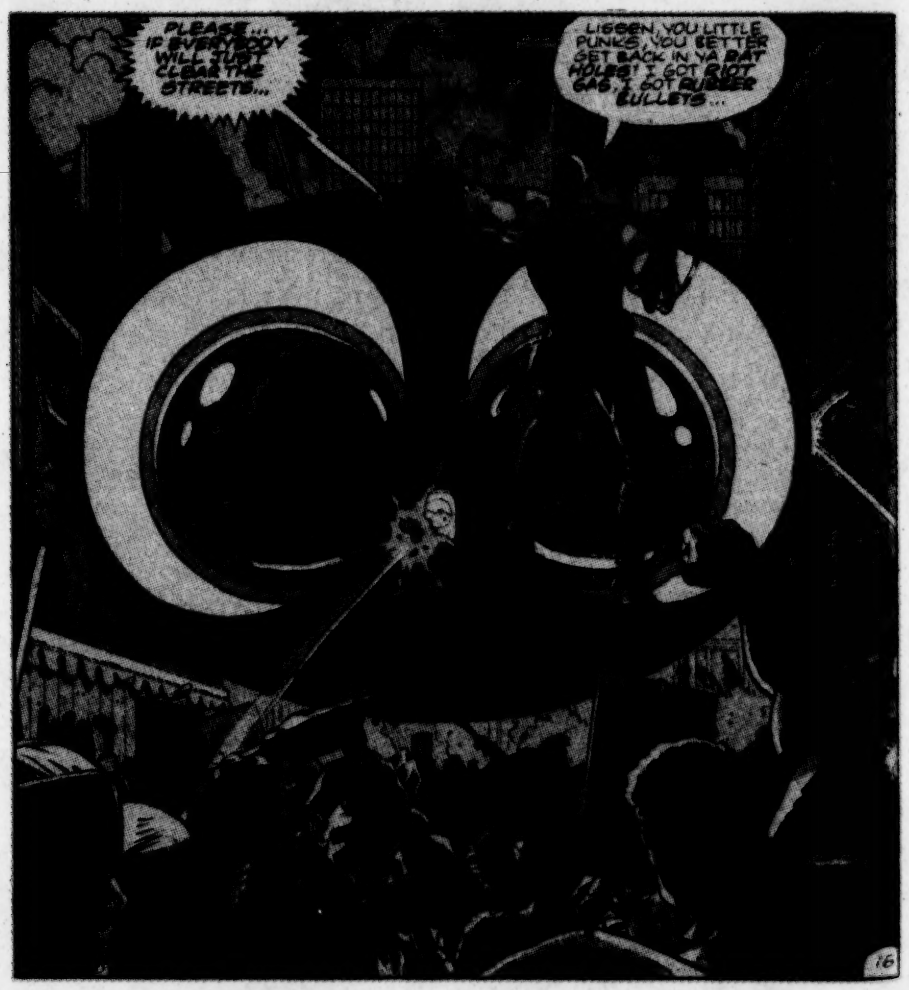
Information free from: Active Offices Systems, 9913 Grayson Avenue, Silver Springs, MD 20901; 301/593-4304. ■





Watchmen

This was a 12-issue limited series from National Comics a couple years back. It's available now as a graphic novel. I think it's a landmark of sorts. I used to work in the field as a background artist. This was in the mid-seventies. After a while I got to the point where I could have gone full-time into comics, but I decided that really all they were was big guys hitting other big guys. So, although I had learned a hell of a lot from some very talented people (including Wally Wood, by whom I was employed for a couple of years before he became ill), I decided to seek my fortunes elsewhere in the art industry. In those days, absorbing comic-book stories were few and far between. ***Watchmen*** *would have kept me in the field. Comics are better now, but make no mistake; there's still plenty of dross out there.*



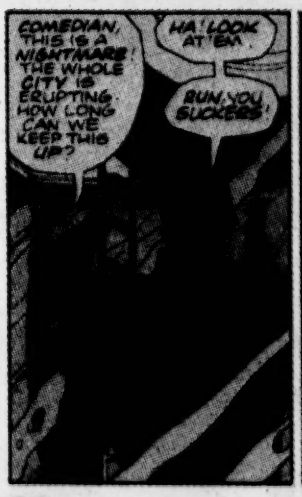
Watchmen *is set in a parallel world where superheroes are called "adventurers." A federal law has outlawed all masked-vigilante activities, but one or two of the "heroes" work for the government, knocking off Marxist republics or conducting nuclear research.*

But someone begins picking the "masks" off, one by one . . .

Excellent art, good story (maybe a bit of a let-down in the end, plot-wise), and even a rich sense of the history of the comic book: ***Watchmen*** *is what you wish you'd found twenty years ago on the racks. But it's there now, so go buy a copy, take it home, and do what you did when you were a kid: blow an afternoon reading it. It'll shock you, amuse you, piss you off and sadden you. I never had a comic book do all that to me before.* —*A. L. Sirois*

[Suggested by Tom Collins]

Watchmen
Alan Moore and Dave Gibbons, 1987
$14.95 ($17.45 postpaid) from:
Bud Plant Comic Art, P. O. Box 1689,
Grass Valley, CA 95945; 800/242-6642.

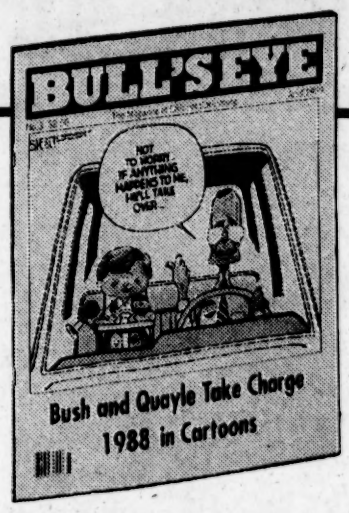


Bull's Eye

This new magazine of editorial cartooning offers access to the pictorial wit of more than 200 political cartoonists working in the United States.

The monthly magazine features scores of cartoons from large and small newspapers, including college newspapers. Regular features: a large gallery of free-ranging cartoons, interviews with cartoonists, book reviews, historical cartoons and the publication of newcomers to the field.

The mag sells for $2.50 at comic-book stores and bookstores. —Mark Canter



Bull's Eye
Mitch Berger, Editor
$20/year (12 issues) from P. O. Box 150, Lynbrook, NY 11563.

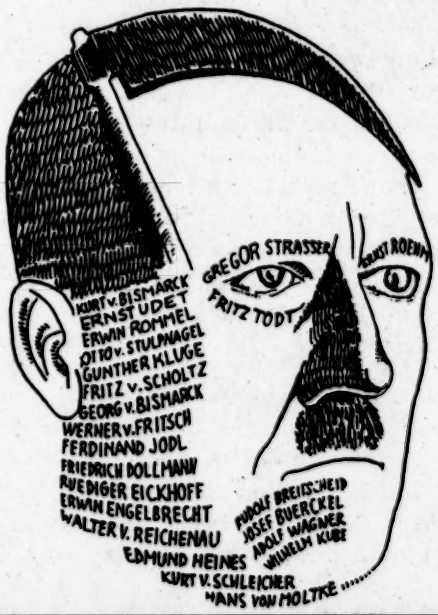
•

Saul Steinberg's Secret World War II Cartoons

During World War II, as the tide of battle ebbed toward victory for the Allies, an obscure U.S. Navy Ensign with a talent for cartooning and explosives was transferred from China to the Office of Strategic Services where he worked on a project that remained classified "secret" for almost forty years.

The project was a series of newspapers and leaflets that were parachuted into Germany and Italy. However, those publications were not of the "Surrender and you will be treated well" variety. On the contrary, they were specifically designed to look like they had not been produced by the Allies. Offering scathing articles and extremely derisive cartoons, the newspapers were created to give the German and Italian populace the impression that there was an active underground. The cartoons were drawn by that Ensign, Romanian born Saul Steinberg, who later went on to fame as an artist for the New Yorker.

Mitch Berger



Those Annoying Post Brothers • Savage Henry

*In these post-**Watchmen** days, Matt Howarth is the cutting-edge comic artist, and his most intriguing and impressive creation, the sprawling Bugtown saga, is chronicled in these two ongoing series. **Those Annoying Post Brothers** tells of the further adventures of those two fun-loving psychopaths, Ron and Russ Post, as they make their happy-go-lucky way of atrocity and mayhem across a universe of infinitely multiple reality levels. **Savage Henry** features one of the Post Brothers' roommates who plays lead guitar for the famous, nonexistent underground band, the Bulldaggers, though many real-life counterculture musicians (such as The Residents and former Tangerine Dream member Conrad Schnitzler) appear as minor or major characters in the saga. Though some may find the Post Brothers just a little too black-humored (in one episode the boys terrorize an average American family; in another Russ reads a paper that bears the headline "Post Brothers Sold Ovens to Hitler at Cost"), Howarth's work is the most interesting material being written this side of Alan Moore, and the funniest since the demise of the much-mourned **Stig's Inferno**.*

—Lawrence Person

Those Annoying Post Brothers • Savage Henry
Matt Howarth
$10/year (each series; 6 issues) from: Vortex Comics, 367 Queen Street W., Toronto, Ont., Canada M5V 2A4; 416/977-4151.

FUNNYBOOKS BY SARAH VANDERSHAF

LOOK AT MODERN "COMICS," and you won't find many that live up to the literal meaning of their name. Bookstore shelves are packed with grim barbarians, earnest young superpersons, jaded and cynical cosmic cowboys, and teeth-gnashing baddies out to upset the very fabric of the universe and unleash chaos upon us unsuspecting readers. Not many laughs there. Innovative new comics put out by independent publishers may be less clichéd and more thoughtful than the mainstream variety, but generally no less cheerless.

Fortunately, comedy has not been left entirely to Archie and Veronica and Casper the Friendly Ghost. What the titles reviewed here have in common is a refreshing awareness that they are just comics, after all. They may ape the standard genres, but without the self-conscious seriousness of most comics.

I suspect that all the doom and gloom is a misguided attempt to invest comics with more literary respectability. No one's gonna laugh at a storyline that blows up the Milky Way Galaxy in the first episode. Well, I've got news for the comics industry. No comic book is ever going to be ***The Brothers Karamazov****, anyway. So, to paraphrase Groo the Wanderer, my advice to comics creators is to do what you do best, and put the* fun *back in funny books.*

Pleese?

Judge Dredd

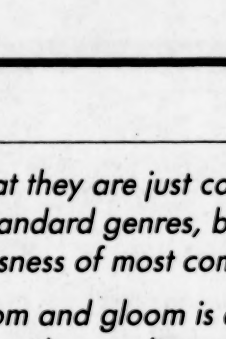
Try to picture a descendant of Dirty Harry policing a post-World War III megalopolis overpopulated by refugees from ***A Clockwork Orange*** *and "Monty Python's Flying Circus," and you'll have a rough picture of* ***Judge Dredd****. The good Judge enforces The Law in Mega-City One, built on the irradiated remains of New York City and much of the rest of the Eastern Seaboard. The cops are called "Judges" because they serve as judge, jury, and executioner. (Sure cuts down on court costs.)*

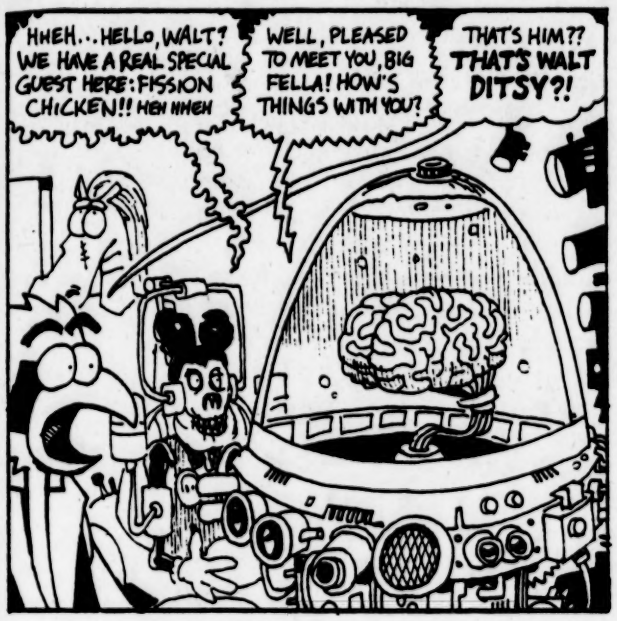
Automation has left most of the 800 million citizens of Mega-City One unemployed, with an unbearable amount of leisure time. They spend it in various pastimes — rioting over jobs, experimenting on their neighbors, and running amok in the streets. Half the population is criminal and the other half lives in terror, which keeps the Judges well-employed, indeed. Steely-eyed and incorruptible, Dredd and his fellows maintain a slender edge of control over the hordes of mutant hillbillies, sociopaths, and punks that threaten to drag the remnants of human civilization into anarchy.

Judge Dredd *is the product of Quality Comics, a British publisher that seems to specialize in comics that are backhanded tributes to the American culture that inspired them. Other titles along this line include* ***Sam Slade, Robo-Hunter*** *(a lot like* ***Dredd****, but with a private eye/mercenary type as the lead character) and* ***Time Twisters*** *(futuristic morality tales with, yes, a twist). Sci-fi clichés start to look pretty odd once they've been beamed across the Atlantic and back again.*

Judge Dredd

$18/12 issues from:
S. Q. Productions Inc., P. O. Box 4569, Toms River, NJ 08754.





Critters

*The funny-animal comic has been revived in **Critters**, a black-and-white monthly that features several ongoing plotlines by different artist/writers. The only similarity among the ducks, cats, rabbits, pigs, mice, dogs, and reptiles is that they are anthropomorphic metaphors for humans. They are also very funny.*

***Critters** was recently named one of America's 24 best magazines by **Library Journal**, an important arbiter of literary excellence. As that honor implies, the editor of **Critters** is serious about the quality of the stories that see print. But don't let it scare you off. The funny-animal genre is one that, by its nature, discourages pretense and invites a sense of humor about itself. This may be one reason why the genre has fallen out of favor with fans in recent years, but it also is a good reason to root for **Critters**' success.*

Critters

$17/year (12 issues) from: Fantagraphic Books, 1800 Bridgegate Road/Suite 101, Westlake Village, CA 91361.

Groo the Wanderer

*Some people may read **Groo the Wanderer** for the poems and secret message in each issue, but there's more to **Groo** than that. Nominally a satire of the hulking-barbarian genre, this title displays the comedic timing of a Keystone Kops film and elevates the device of the running joke to an art form. But the best thing about **Groo** is its integrity. The comic began under an independent publisher, and though owned by ole mainstream Marvel now, it remains under the creative control of Sergio Aragonés (whom you may remember from his **Mad** magazine "marginals"). In graduating to the full-length format, Aragonés has produced one of the most consistently funny comics around.*

Groo the Wanderer

$6.75/9 issues from: Marvel Comics/Subscription Dept., 387 Park Avenue South, New York, NY 10016.

NON-LINEAR FICTION

BY SARAH VANDERSHAF

HAVE YOU EVER read a book and wished that you could change that stupid ending? *Or seen a movie that would have been much better if only it weren't for that one illogical plot twist? Frustration is a healthy reaction to entertainment media that put readers, listeners, and viewers in the passive position of having to accept whatever storyline they're presented with.*

The storylines in computer adventure games offer a bit more freedom, if not much literary quality. Because of this freedom, I think these games are much more involving — and fun! — than any other entertainment medium.

For instance, in one scene from UNINVITED, the immediate challenge is to get past the odd creature blocking your path to the middle door. Above the scene is a menu of actions (EXAMINE, OPERATE, etc.) you can perform on the creature using the objects in the inventory or anything you can find lying around the room. You could try HITTING the creature with the axe. Or perhaps OPERATING the Victrola will work (music hath charms . . . ?). If the beast remains unfazed, you can explore other rooms, dropping old things from the inventory and bringing back new things until you hit upon the right combination (the creature's behavior gives you a hint). It seems silly, but when you do get through that door at last, you feel like you've really accomplished something.

You, the player, become the story's main character, so that within the limited confines of the game, you have some control of where the story goes. Of course, there is usually one "right" path you must follow in order to "win"; get too creative, and you will find yourself very dead, very fast. So the ultimate interactive entertainment form doesn't exist, and probably won't for some time yet. But computer adventure games are one place to watch for it.

PLUNDERED HEARTS

I picked up PLUNDERED HEARTS because it was the only interactive fiction game I could find that was written by a woman, and I wanted to see what it would be like to play one that wasn't a product of the adolescent male mentality. It didn't take me very long to figure out that this is a product of the adolescent female mentality, which isn't much different. Specifically, PLUNDERED HEARTS is a bouncy jaunt through a 17th-century historical romance, which takes our heroine to a remote Caribbean isle, where she is confronted with swashbuckling pirates (goodies and baddies), secret passageways, and a very hungry crocodile as she tries to rescue her imprisoned father from the clutches of the resident villain, a bewigged hambone by the name of Jean Lafond.

Although the game is rather skimpy by interactive-fiction standards, it's got a sense of humor about the whole historical-romance genre. In most games you can lose only by dying; in PLUNDERED HEARTS you can also lose by "suffering a fate worse than death." I suspect that because the adventure-game market is overwhelmingly male, this game isn't a big seller, and that's a shame.

GRAPHIC ADVENTURES *(GAMES COMBINE PICTURES AND TEXT)*

Deja Vu

DEJA VU: A NIGHTMARE COMES TRUE

DEJA VU came out a few years back as the first in a series of "graphic adventures" created by Infocom's MacVenture team. It's a detective story a la Sam Spade that incorporates every cliché of the genre and invents a few new ones along the way. As the game begins, you wake up in the men's room of a seedy bar with a massive hangover and total amnesia. Sound promising? Stumble on — and discover that you've been framed for a murder you didn't commit (at least you don't think you did it) and everyone seems to be out to get you, from cops to muggers to alligators in the sewers. Your objective is threefold: to reverse the effects of the amnesia-inducing drug you've been given; to destroy the false evidence linking you to the murder; and to bring the real perpetrators to justice.

The graphic-adventure format had not quite jelled when this initial product was made, and it shows. Perspective flops confusingly between close-ups and long shots, and the plot is not as richly complex as in subsequent games. But the seeds of greatness are clearly apparent in DEJA VU.

UNINVITED

In some ways, this is the best of the three MacVenture games. Although once again drawing on a familiar literary genre — this time horror — UNINVITED throws some highly imaginative creatures and situations at you that you won't find in your average Stephen King novel.

TEXT ADVENTURES *(GAMES ARE WORDS ONLY, NO PICTURES.)*

SHERLOCK: The Riddle of the Crown Jewels

This is first in a series of interactive-fiction games based on "immortal legends" of literature. Here, you are Dr. Watson accompanying Sherlock Holmes on his quest to recover the Crown Jewels, stolen by (who else?) Professor Moriarty. The villain sends you and Holmes on a scavenger hunt for clues hidden among the monuments of central London. A twist in the plotline gives you, Dr. Watson, more responsibility for the story's outcome than that character ever had in the book series.

In addition to the usual interactive-fiction format, SHERLOCK features sound effects and on-screen hints that can be called up during play.

You shouldn't need to look at the on-screen clues very often, though. The game itself gives you enough hints to solve it without help, particularly if you are familiar with the "rules" of interactive fiction. Which means that fans of the Sherlock books, who expect to be confronted with puzzles requiring brilliant flights of deductive insight, may be disappointed. But hard-core interactive fiction freaks won't be.

THE HITCHHIKER'S GUIDE TO THE GALAXY

As you might guess, this game is inspired by The Hitchhiker's Guide to the Galaxy, Douglas Adams' best-selling book. You play the role of the book's main character, a hapless human named Arthur Dent. Barely escaping the destruction of Earth, you are immediately embroiled in an escalating series of bizarre adventures spanning this fun-loving galaxy of ours. Accompanying you on your journey is the actual Hitchhiker's Guide to the Galaxy, an electronic database you can call up on your computer for information on, say, the purpose of a Babel Fish, should you happen to stumble across one.

The HITCHHIKER game does not follow the exact plotline of the book (that would make it too easy). Being familiar with the book, though, will alert you to the author's idiosyncratic sense of humor, which made the book so popular but is maddening when you're trying to figure out how to activate an Infinite Improbability Drive. Some of the solutions are so bizarre you practically have to be Douglas Adams to figure them out. For experienced gamesters only.

BUREAUCRACY

This game will drive you insane. Yet another Douglas Adams opus, BUREAUCRACY employs the same twisted logic as THE HITCHHIKER'S GUIDE. But this time, there's no in-game guide to help you, and the situation is inherently frustrating to boot. You have just moved to a new town and a new job at Happitec Corporation (already things sound ominous). The nice folks at Happitec want to send you to Paris, France, for a training seminar. But it seems your mail has been sent to a different address, making it impossible for you to catch your flight.

If that sounds a tad confusing, just wait. At every step you are confronted by bank tellers, airline reservation clerks, paranoid survivalists, and various other characters, all of whom are part of a grand Kafkaesque conspiracy to keep you off that plane. And if you do get on that plane, your troubles have only just begun! As the frustrations mount, so does your blood pressure, which your computer helpfully monitors on screen. Obviously, BUREAUCRACY is only for those who don't have to deal with the real thing each day.

Text-only games: *Plundered Hearts, Sherlock, The Hitchhiker's Guide to the Galaxy, Bureaucracy.* **$15-$40**; for Macintosh, Apple II, Amiga, Atari, IBM, Commodore. Catalog **free** from Infocom, Inc., P.O. Box 478, Cresskill, NJ 07626; 800/262-6868.

Graphics-text games: *Deja Vu, Uninvited, Shadowgate.* **$35-$50** for Macintosh, Apple II, Amiga, Atari, IBM, Commodore. Catalog **free** from Mindscape, Inc., 3444 Dundee Road, Northbrook, IL 60062; 800/221-9884.

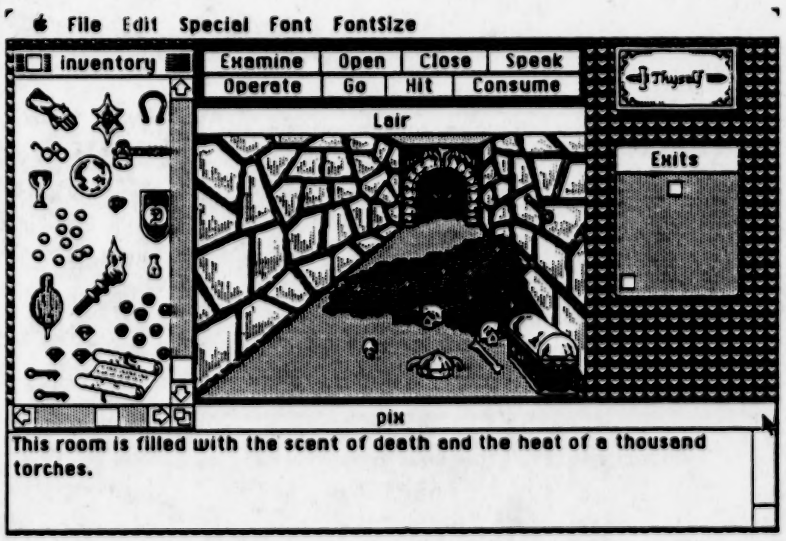
As in DEJA VU, this game begins with you waking up into one hell of a mess. Your car has crashed, conking you out, and your little brother has gone to the nearby ugly-looking mansion for help. Like a fool, you follow him into the mansion to rescue him — only to realize that the mansion is haunted, and you're in need of rescue yourself.

UNINVITED's graphics are good enough to create some horribly realistic monsters, demons, and zombies. (They may be too realistic for some young children.) Unfortunately, the game's ending is a bit anticlimactic. It's too easy compared with the challenging puzzles that lead up to it. But that's a minor criticism of an otherwise wonderful game.

SHADOWGATE

The operative fantasy in SHADOWGATE is that perennial favorite of computer nerds and other deviants, the Dungeon & Dragon quest. At the start of play the game exhorts, "You are the seed of prophecy, the last of the line of kings, and only you can stop the Warlock Lord from darkening our world forever," and shows you the front door of the castle where you are to defeat the evil wizard once and for all.

Twenty-seven rooms later you still haven't found this Warlock guy, and you're beginning to wonder what ever prompted you to embark on this stupid quest. And you wouldn't be alone — the only criticism I've ever heard anyone make about SHADOWGATE is that it's too hard! The boys at MacVenture pulled out all the stops for this one, creating an absorbing universe in which almost every object you stumble across has some hidden purpose that's vital to solving the game. It could take you months to wind your way to a spectacular Final Confrontation that I guarantee makes the frustrations of SHADOWGATE all worthwhile. ■



Looks like Fido is a bit shy about coming out of his cave. Maybe you should throw him a bone — there seem to be a few lying around. From SHADOWGATE.

Simple words about the new science of complexity

Several decades ago, the perennially neglected philosophy of holism was polished up and dubbed "cybernetics." Insights from cybernetics eventually spawned this magazine. Yet, as a legitimate science, cybernetics was quietly abandoned when its speculations withered of dry-rot. They were untestable.

The problem was: systems large enough to supply answers were indispensable enough to avoid meddling with. The risks of large-scale messing around with ecology, or the economy, or the climate, or a person's mind, reduced empirical knowledge of big indivisible systems to anecdotal observations. When a whole system failed it was outright disaster rather than the stuff of advances. And there the study languished, until computers.

Computer science gave cybernetics a new life and name: complexity theory. Computer circuitry vanished into ever-smaller, self-contained, tweakable systems. As chips shrank in miniaturization, software code ballooned to cybernetic size — acquiring a will of its own. A computer's inner architecture soon could mirror the full-sized complications of, say, genetic algorithms, or financial markets. The rejuvenation of studying whole systems lay in the power of the computer to adjust its complexity to imitate other complexities. Software programs could tell how to model small primitive ecologies, crude neural networks, and elemental flows of water and air. Not enough to believe in, but enough to actually experiment with. You could have all the failures you wanted.

Like cybernetics, most of the talk about complexity has been just that, talk. About new paradigms. About holistic solutions. The one place that has actually put money where its mind is has been the Santa Fe Institute in New Mexico. For the past several years it has sponsored the most electrifying scientific programs in the country. Participating scientists come away with more than their minds changed; they change careers. The Institute asks wonderfully big questions, spends adequately big money, invites serious working scientists with wildly divergent interests (Nobel Laureates galore!), mixes them together, and listens. And then publishes in earnest.

The Santa Fe Institute views its task as understanding "complex adaptive systems." Adaptive and complex as in: The First Artificial Life Conference; Evolutionary Paths of the Global Economy; and Complex Systems Summer School, some samples of recent workshops. I don't think they've held a lame gathering yet. The Bulletin of the Santa Fe Institute *(free from The Santa Fe Institute, 1120 Canyon Road, Santa Fe, NM 87501) is a consistently prime source of new notions in the field of non-linear anything.*

In a recent issue of the Bulletin, *George Cowan, President of the Institute and former member of the White House Science Council, was interviewed by Dan Tyler, a writer in the International Technology Division at Los Alamos National Laboratory, on the genesis and guiding concepts of the Institute. The following excerpt from their conversation tackles one version of complexity — the complex problem of putting it simply.* —*Kevin Kelly*

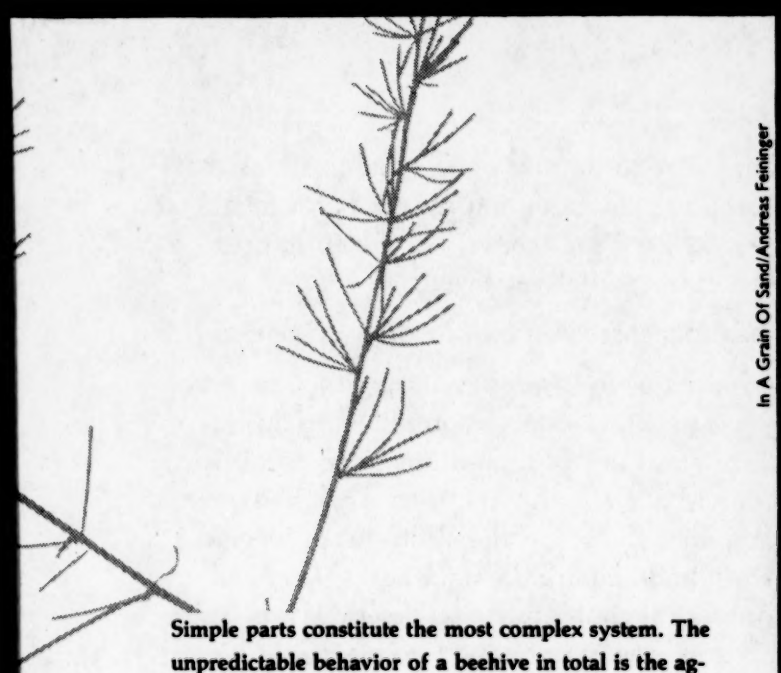
A talk with George Cowan

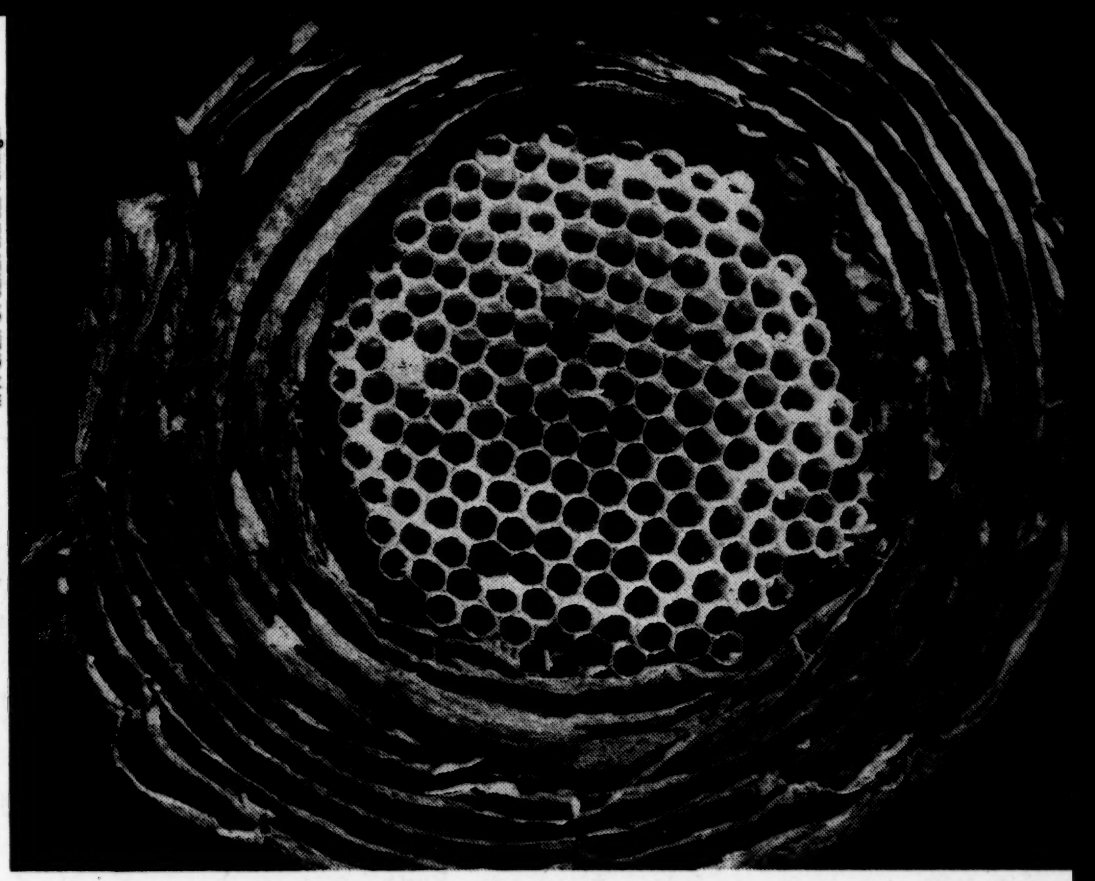
There has to be wider recognition of the fact that science has reached the point where it can no longer simplify problems so that they don't resemble the real problem. As systems become complex they develop properties of their own. We have yet to successfully apply the reductionist technique in explaining complex systems in terms of their simpler subsystems. That's a profound and ongoing debate in science between the reductionist view, which says you can always find a shorter way to describe properties in the system in terms of its different parts, and the people who say you're going to run out of that capability the moment you challenge it against the real world, against life systems and social systems and so forth.

Nobody has yet been able to do a really good job of taking an even modestly complex system and describing it in terms of its subsystems and showing how all its properties arise from the interaction of all its parts.

Ultimately, isn't that what the Santa Fe Institute is trying to do?

Well, it would like to define the general elements of the science of complexity, which would permit you to do that, at least to some extent. But it can't assert that one side is correct because the debate is ongoing and evenly matched with people who insist that some part of the properties of a complex system are in effect controlled by something external to the boundaries of the system. It's a religious issue because when you assert that a complex system will fail to be totally autonomous, that there will be some property derived from something external to the system, people will say you're talking about God or some aspect of nature that imposes order on complexity. Or does all the order arise





In A Grain Of Sand/Andreas Feininger

Simple parts constitute the most complex system. The unpredictable behavior of a beehive in total is the aggregate of the rather predictable behavior of individual bees. Likewise, the learning ability of a hive is distributed among thousands of individual organisms. Thus, a beehive mirrors the "massively parallel" style of computing in supercomputers, where many small chips simultaneously work on a large problem.

internally? That's a very profound debate, one which I would like to avoid.

I was just about to ask you not to avoid it.

Well, as a scientist my only choice is to say that we'll press for reductionism as far as it will go. But I would be agnostic to the extent that I will not be too surprised if I find that I've got to adopt Johnny von Neumann's pragmatic description of complexity. He avoids saying where the properties come from, and says that a truly complex system is best characterized by describing the system's properties. That's a shorter message than describing the subsystems, but you don't find any magic simplicity. Herb Simon calls it pragmatic holism.

Doesn't that undo the supposition that you can find laws that link all complex systems together?

I would like to believe that we'll find a general set of elements that indicate why complex systems behave the way they do, although we may never be able to use them in a predictively useful fashion. In fact, complex systems generally have many possible states, all of which look stable on some time scale. But they're all always metastable, far from equilibrium. If they are in true equilibrium, they're no longer complex, they're stable and probably have elegantly simple properties, and in fact they're dead. Complex systems usually imply a living system, something that's dynamic.

If you treat a complex system as many economists do, as a set of equilibria, it's no longer dynamic and it's of less interest. The Santa Fe Institute is attempting to bring an uncommon paradigm to economics. Economists tend to use the physical-science paradigm and look for equilibria on some surface, possibly at some lowest, most stable state. But I think it's obvious that economics operates out of equilibrium. You shouldn't look for stable states, you should look for transitions and for the laws that govern them.

Is this the first time economics has been approached from this direction?

No. Economic texts usually pay attention to nonlinear dynamics, particularly in econometrics. You'll find a chapter in the book [*The Economy As An Evolving Complex System,* 1988, Santa Fe Institute] that says that this may be a more realistic way of looking at economics, then it gives up rather quickly because it gets into mathematics that most people don't deal with, except in a rather elementary way. And the consequences of nonlinear dynamics in economics are so awesome that nobody can pursue them very far.

The basic premise in neoclassical economics is that you will achieve an equilibrium. But change the time scale and that's not necessarily the case. You achieve punctuation points, transitions and hesitations. If you want to talk about it from minute to minute — and that's important in the stock market — it may have long plateaus. Of course, by sensing those plateaus you might make a lot of money. But on the other hand, changing the time scale, if you're a long-term trader, it may look totally devoid of any plateaus. So, in fact, the measure of complexity must have an element of time built into it. You always have hierarchy in the reductionist scheme. I suppose in any scheme you have to talk about complexity arising from simple parts that aggregate into more complex parts, which in turn aggregate into even more complex parts, and so forth. The time scale changes at every level. ►

That tendency to aggregate applies to any complex system, from subatomic phenomena on up?

In physical science, you start with quarks, which may be made up of simpler parts. With quarks you build protons and neutrons and so forth. And when you go from the nuclear interactions we're most familiar with, you go from let's say 10^{-20} seconds to atoms and orbital electrons interacting with each other, to a time scale of maybe 10^{-10} or 10^{-12} seconds. Then when those atoms interact with one another and become complex proteins, you start to talk about biological reactions and change the time scale again, usually by several orders of magnitude. In mental processes, a typical relaxation time is 10^{-3} seconds.

When you aggregate all of these things into cells and organisms the time scale changes again. Now you have circulation and other mechanisms. Even neural impulses from the brain to the toe — these things can change again by orders of magnitude. You have action at a distance, so to speak, both mechanical and electrical, conveyed in ways that take time. And then you have social structures that aggregate living species — for people, the aggregations, of course, are families that aggregate into communities, communities aggregate into nations, and so forth. In the economic structure you have offices and branches and corporations and working aggregations of corporations and global economies. The whole question of evolution deals with still another time scale.

The relationship of the time scales is fundamental to how a complex system works?

I suppose that one way to talk about complexity is to talk about characteristic relaxation times. At every level of complexity things interact with one another on about the same time scale. But they also see things happening below them, which essentially bias the system. They look like noise; they average out because they're operating so fast that they look like a DC signal. Above them, they see things that are operating so much more slowly than they do that they serve as parameters. So on every level in complexity you're living on a common time scale horizontally, looking at something that operates much faster below you and at something that operates much slower above you. A lot of that has to do with the size of the system and the length of time it takes to convey information, the bit rate, or the entropy if you know how to measure it.

Something important that's happening now is that modern technology is screwing it up by speeding up the bit rate. Information is being transmitted from large units to smaller units, and vice versa, much faster than ever before — TV and 24-hour global satellite communication and visual information. We're saturating social organizations that are geared to processing information at a much slower rate. We haven't invented the structures that can manage that very well.

How has that increased bit rate affected science?

It's permitted us to begin developing the science of complexity. You need large computers to do numerical simulations of high-dimensional problems. They don't have elegant solutions, and the larger the computer, the larger the ability to process information and acquire the data bases you need to do a numerical simulation that resembles reality. We still don't really know how to do it, but it's going to happen. Twenty years from now people will have really sophisticated means for handling large data bases and for letting the parts of highly complex systems interact with one another in ways that may resemble what actually happens. I suspect if we find general elements of a science of complexity, they'll emphasize feedback loops set up among the various parts, both amplifying and damping. Metastability can occur when these tend to balance out.

One of the most obvious loops is in economics — memory. People remember history and anticipate the future. If they feel that the future is going to be like the past, that's a negative feedback loop. They tend to retain the past history. If they feel for any reason the future is going to be different from the past, they behave in such a way as to affect the present. And that's positive feedback. They pop out of whatever basin or plateau they may be on. They may panic, they may become excessively greedy. If they become greedy you may have a boom, if they become panicky you have a crash.

How do you decide which loops to examine when you study a complex system?

When we talk about high levels of complexity we arbitrarily draw the boundaries. There's no natural boundary. Where you draw the boundaries of the system depends on how simple a view you want to take. You can keep enlarging the boundaries all the time. After drawing the boundaries, we usually say, well, we can't handle that, so let's constrain the system some more and see whether we can understand a simpler part of it. But when you reduce the boundaries, at least you know who your neighbors are. And if you start with a simple system you don't even know that. If you examine a larger system than the one you're eventually going to study, at least you know the neighborhood and you can hook up to it in an average way. But you shouldn't remain ignorant of the larger neighborhood, and you particularly shouldn't make a virtue of your ignorance of it, which is what a lot of people do.

Constraining the big picture to look at connections between particular neighbors seems like it would be tricky.

Well, that's why people don't generally do it well. We're talking about a whole new science and you don't achieve it by contemplating your navel overnight. What you try to do is define its general content, and then a lot of good people start to study it. If over the next fifty or hundred years it develops into something useful, it will be because of one hell of a lot of work. If anything I've said implies, "Eureka, we're going to understand complexity," that isn't so. What we're trying to do is establish complexity as a new science worth studying.

You've talked a lot about economics. Is that the most fruitful or promising topic for the study of complexity?

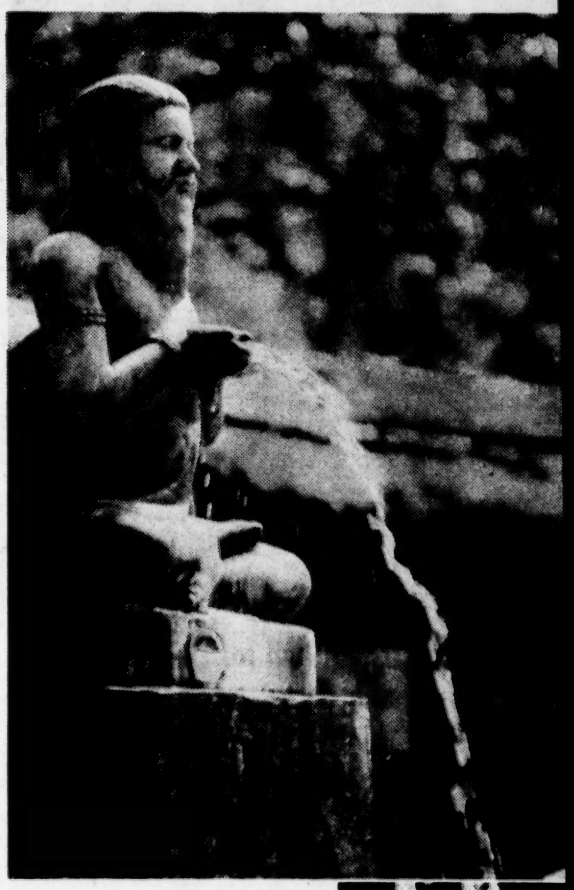
Well, I think it's possibly overly ambitious because if we stuck to the things that we know the most about, like fluid dynamics or cellular automata with fluctuations and errors or interactions with a stochastic external environment that pumps energy into them, they would represent the shortest extrapolations from what we think we know to what we don't know. And we would stop with simple protein dynamics, which is a reasonably well-thought-out, accepted field of research now, but not one people necessarily know much about.

And I suppose we should stop there. But the temptation to see in these life processes analogies with economic and social processes is very great. In fact once you start studying that kind of complexity you begin to see resemblances to larger organizations. And so very good economists are coming here, and we've begun to speculate together about economic processes.

There's a world out there which responds to the notion of new ideas about economics more quickly than to any of the other notions we're kicking around. So there are people who are prepared to support this new effort, and the Institute has moved more rapidly in that direction than caution might have indicated. It's a region in which we're all profoundly ignorant but one in which the payoffs could be big.

Also I have to admit I started out to be an economist so I have certain biases. As an undergraduate I paid more attention to those courses and less attention to physical science. I just found them in some ways more interesting, and I'm still kind of a closet economist.

What's the relationship between complexity and the age-old attempts in physics to explain existence simply?



Complex systems look stable at some scale, but are in fact far from equilibrium. The standing arc of a fountain's stream seems stable from one distance, but from another is seen as a braid of chaotic gushings.

Kevin Kelly

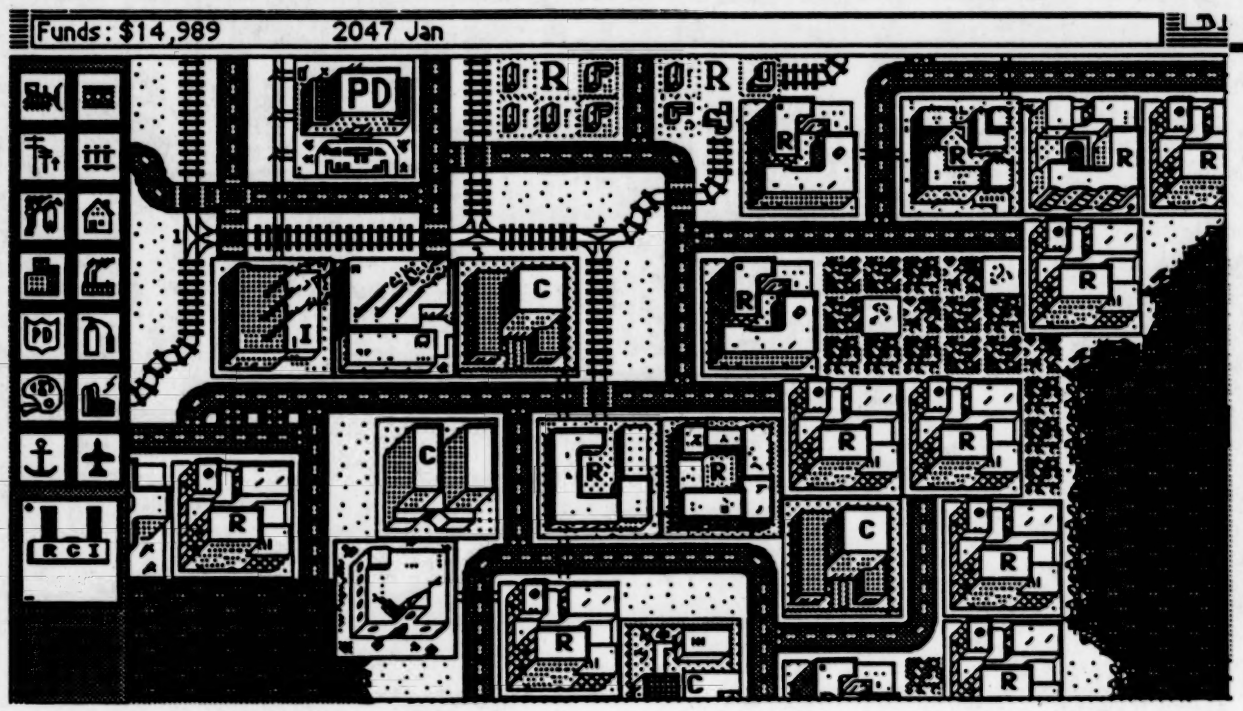
It's very interesting. If quantum fluctuations began the universe, it seems that rather than going to real simplicity, you re-enter a realm of complexity. I don't know whether you read the article by a Russian named Andrei Linde in Phys. Rev. last September called "Inflationary Cosmology." He says that there are many moments of beginning. The process can create a very large number of different universes. If, in fact, the expanding universe in that first moment can bifurcate many times and move into some part of an arbitrary, possibly infinite phase-space, you're back to the same philosophical question — what is the deep truth or is there any? So that's why I say I'm agnostic. It's not clear to me you can ever get back to a deep simplicity.

That reminds me of an ancient Hindu idea that the universe itself pulses, that it awakens and goes to sleep, and with every awakening there are new energies, forces, and natural laws, completely different from those of the previous awake state.

That's a theme that constantly recurs in philosophy. The major rationale of grand unification is that indeed you will grab the brass ring of simplicity. If that escapes people . . . in the end I don't know whether we'll find fundamental truth or have to admit that reality is a series of endless loops, that there's no bottom level in these hierarchic levels of complexity.

Meanwhile the physical scientist holds to the faith that simple components will be found at the bottom. And I don't think that's so bad. I mean, everybody needs a working hypothesis. ■

An Album of Fluid Motion



Tiny cars cruise SimCity's roads carrying citizens to work and home. Building structures are erected by Sim citizens as real-estate growth conditions come about.

SimCity:
Copy-protected. Apple Macintosh. **$49.95** from Brøderbund, 17 Paul Drive, San Rafael, CA 94903-2101; 800/521-6263 (order), 415/376-6434 (information).

SimCity

As mayor of an imaginary city I've constructed using a new Macintosh game, I finally understand why there is never enough funding for education, and how someone could bulldoze a park to build a high-rise.

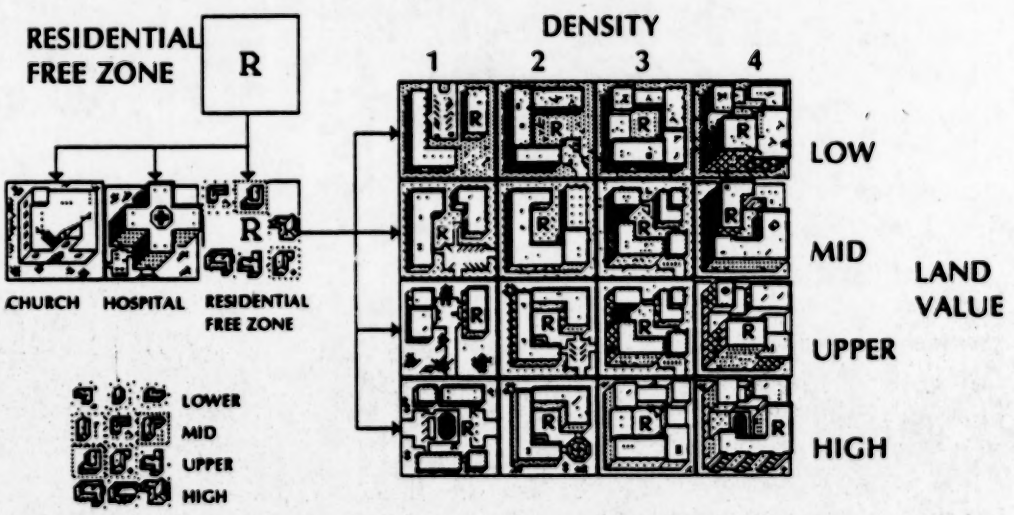
Wearing the mayor's hat in SimCity I build parks, roads, fire departments, and mass transit. Sometimes I have to bulldoze. I can start a city from the ground up, or take over an existing city. Each improvement subtracts money from my limited city budget. Each improvement also has consequences down the road. I can zone the privately held land for residential use, but no Sims (computer-simulated citizens) will move in and build homes unless I also provide enough jobs, which entails building factories, which demand electric power plants and roads, which produce pollution and traffic, which cause Sims to change their minds and leave . . .

In one city which I built up over many Sim-years I had a 93-percent approval in the public-opinion polls. Things were going great! I had a nice balance of tax-producing commerce and citizen-retaining beauty. To lessen pollution in my great metropolis I had built a nuclear power plant. Unfortunately, I had inadvertently placed it in my airport's flight path, and one day by chance a plane crashed into the generators causing a meltdown. This set great fires going, and since I hadn't built enough fire stations in the vicinity (extremely costly), I could never gain control of the fires as they spread, eventually burning down the whole city.

I'm rebuilding, differently.

I love games and books that are able to create worlds of their own, and I've lived in nearly all of them. SimCity has been one of the most addicting of all.

—Alan Greene [with Kevin Kelly]



Hidden Agenda

Jim Gasperini was a contented computer programmer cranking out Star Trek adventure games when he went to visit his brother, a foreign correspondent in Nicaragua. By trip's end his horizons had widened and the eventual result was Hidden Agenda, a new kind of computer game merging both narrative and simulation techniques into an interactive operation where each decision you make affects your later options.

Hidden Agenda happens in the land of Chimerica, a troubled Latin nation that just chose you, dear computer junkie, as its president. As El Presidente you must first pick your cabinet ministers from a roster of candidates ranging from peasant revolutionaries to reactionary upper class, and then confront the overwhelming national needs with the scant national assets. Internal pressures force sticky decisions — land reform, while producing happy peasants, will also enrage landowners who will unite with the military to terminate both your policies and yourself. Is it worth it? The dilemma is compounded by the conflicting advisors you consult, ranging from the U.S. ambassador and some death-squad military types to guerrillas and a furtive Cuban consul.

On my first try I took a far left position that produced an attack on the presidential palace, as well as my own death. Next I tried a far right approach, but the same thing happened. Gasperini insists that it's possible to stay in power for a full three-year term, so obviously I have yet to master the subtleties of computer politics. A whiff of tear gas might sharpen my concentration . . .

—Dick Fugett

Hidden Agenda:
Not copy-protected. For Macintosh, IBM clones; requires 512K, two DDs or hard drive, color card.
$59.95 from Springboard Software, Inc., 7808 Creekridge Circle, Minneapolis, MN 55435; 800/445-4780.

The Insider's Guide to Demographic Know-How

Monitoring how money swirls in, around, and out of populations is what modern demographers are really after. Of course, purely social and political currents can also be queried and tracked. There is no end of numbers available, many for free. Making sense of statistics requires carving them up with insight. You can get them sliced by commercial companies for a nice fee, or you can dice them up yourself. This excellent manual guides you through the wonderland of databases, most of them public. Although computers are increasingly pertinent (and often vital) in analyzing demographics, this handbook also shows you how to tackle the job yourself with printouts and a calculator. Happy trend hunting. —*Kevin Kelly*

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Today, for a price ranging from $75 to $150, you can get enough demographic information to analyze any area as a possible site for a business, often within 24 hours of placing an order.

•

RULE 6. The populations for smaller places are more likely to be overestimated than the populations of larger places.

Of the 2,425 places in the U.S. with a population of 100 or less, 55 percent were overestimated, according to the 1980 census results. On the other hand, only 37 percent of the 160 places with populations of 100,000 or more were overestimated.

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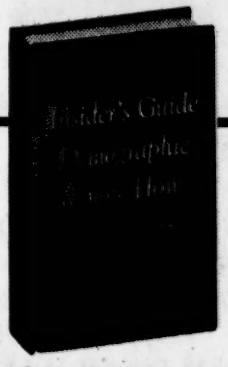
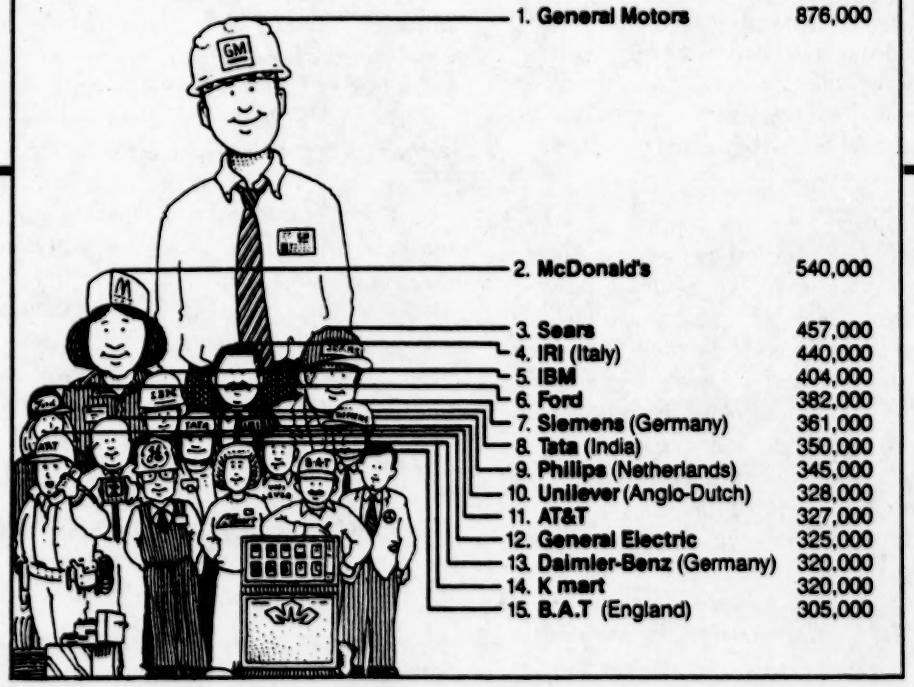
Monitoring the Future

This study is a nationwide study of seniors from each new high school graduating class, beginning with the class of 1975, with annual follow-up surveys conducted for six years following graduation. The study topics include lifestyles, drug use, and plans for education, occupation, marriage, and parenthood. Data for 1975-1986 are available in printed form, a free monograph can be obtained from the Monitoring the Future Office at the Institute [for Social Research], and more detailed analyses are available for $40-$240 from the Institute's Book Sales department, Room 1213. For more information call Jerald Bachman at 313-763-5043.



The Insider's Guide to Demographic Know-How
Penelope Wickham, Editor
1988; 246 pp.

$19.95 ($22.95 postpaid) from:
Probus Publishing Co., 118 N. Clinton Street, Chicago, IL 60606 (or Whole Earth Access).



The Global Marketplace

To be understood, corporations need to be understood as individuals — as entities with pasts, personalities, and (somewhat) predictable behavior. Such perspective is tough to find — partly because corporations often try to keep their personalities hidden, and partly because they're so vast that only a dedicated researcher can learn enough to make a good judgement about them.

One recent book really helps. It picks up where the 1980 masterpiece almanac of corporations, ***Everybody's Business****, left off.* ***The Global Marketplace*** *(by Milton Moskowitz,* ***San Francisco Chronicle*** *columnist and one of the three* ***Everybody's Business*** *authors) is even more of a masterpiece, particularly in its lucid command of details. Did you know, for instance, that the chairman of Hyundai is called "The Chairman" even by members of his own famiy? That Reuters News Service gave its own founder a mere 17-word obituary? Or that Singapore Airlines employs one out of every eighty-nine workers in Singapore?*

Moskowitz covers 102 international corporations — all influential here in the U.S. and everywhere. In fact, as corporations act more and more internationally, the one distinction drawn in this book — no firms founded in the United States — is more and more meaningless. Eventually, one can only hope for a revision of ***Everybody's Business*** *as a companion piece — or better yet, a combined book which treats all corporations together.*
—*Art Kleiner*

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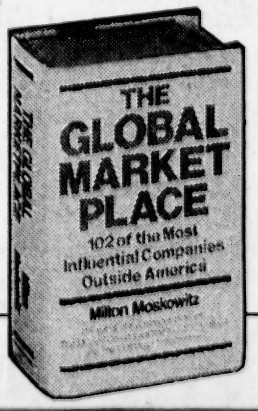
Soichiro Honda is also that rare leader who knows his own limitations. . . . Honda explained to writer Mitz Noda why he stepped aside:

> "I lost my sex power. I don't say I have lost all my sex but I must admit frequency of doing and recovery have not been the same as when I was young. Great leaders love sex, and I am not a great leader anymore. I can't drink anymore. Two cups of sake is enough. For entertaining customers and employees, presidents should be able to drink more. I know what I can't do. I don't understand data processing and electronics. Today, automobiles require automation. I am too old to study computers; I have no willingness to learn new technology anymore. Without sex power, drinking habits and work desire, I should quit the life of an entrepreneur."

The Global Marketplace
Milton Moskowitz, 1988; 708 pp.

$24 postpaid from:
Macmillan Publishing Co., Front & Brown Streets, Riverside, NJ 08075; 800/257-8247 (or Whole Earth Access).



OTA Publications

LET IT BE KNOWN that there is still one government agency that really works. It's the Office of Technology Assessment (OTA) in Washington, DC. Their job is to come up with non-partisan evaluations of current and future technology for congressional lawmakers and staff. In their search for implications of various technologies, OTA deliberately incorporates a wide variety of opinions, including outright critical views, which gives their reports great credibility. I was quite impressed that they sent a researcher onto the WELL while they investigated the future of telecommunications; there've been few journalists in the trade who've done the same.

OTA's densely researched tomes are consistently the most alert and even-handed surveys of the consequences of new technologies available. They are tax-funded cheap, too, though they tend to sell out quickly. (Corporate forecasts far less capable cost hundreds, if not thousands, of dollars.) Here are three of OTA's recent titles that are proving useful. —Kevin Kelly

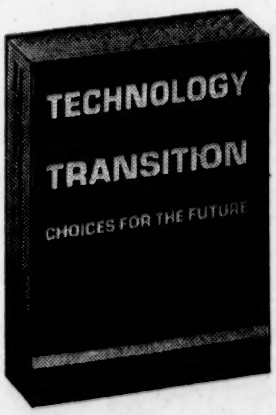
Technology and the American Economic Transition

I would never have bought this book — or any from Congress' Office of Technology Assessment — for myself. But I lucked out and received one as a gift. Only two months later, it is among the most dog-eared, yellow-tagged, coffee-splattered and ink-stained volumes in my library.

It's no secret that the world is changing dramatically, fueled by new machines (the "technology" of the title), new demographics (which, for instance, abruptly ravaged the women's fashion industry this year), new politics and the same old attitudes. In that context, this book is an almanac of the future — stuffed full of statistics and facts as well as thoughtful, authoritative, and yet readable analysis. You'll see an impenetrable table called, perhaps, "Income Distribution from Three Different Perspectives." Then its caption, labeled "How to Read This Table," makes the meaning clear: wage-earners are still as evenly spread from rich to poor as ever; it's among households *that the middle class has dropped away.*

As a journalist, I've used the "Green Book," as I've come to call it, to educate myself about textiles, women in the work force, foreign trade, new jobs, and computers. Yet I've only scratched the surface. Interestingly, project director Henry Kelly (whom I called to follow up one of the references) said they originally planned it as a "Blue Book" — but blue ink and yellow paper unexpectedly blended into a green cover hue. So they went with it. That anecdote fits the underlying theme of the book: that we (as a nation, and as people) can deal with and prosper from technology's unpredictable effects, but we have to stay flexible while keeping our values intact. This book is helping me do both as much as (I hope) it's helping Congress.
—Art Kleiner

A 54-page summary is available free, while they last. —KK



Technology and the American Economic Transition
GPO stock #052-003-01096-8
1988; 501 pp.
$20 postpaid from:
Superintendent of Documents, Government Printing Office, Washington, DC 20402-9325; 202/783-3238.

•

The New Rules

The rules under which the economy operates are being reshaped by four major forces:

- new technologies — primarily those built around microelectronics;
- the loss of U.S. preeminence in international markets;
- the possibility that the price of energy and other resources may increase sharply by the turn of the century; and
- changes in consumer and labor markets and a new attitude toward public regulation of economic activity, resulting — at least in part — from new values and tastes.

Taken together, these forces appear to open more opportunities than they foreclose.

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The new skilled clerical jobs, while routine, are more demanding than the ones they replaced. It is not obvious, however, that they offer better job opportunities. To begin with, these new positions pay little more, and in some cases no more, than clerical jobs. Yet the new jobs carry considerably greater responsibility, only without much sense of control — a situation that can increase stress. In the older pattern of clerical work, employees were often able to do routine tasks nearly automatically and could enjoy the sociability of an office environment; the new systems require far greater concentration and fewer opportunities for casual conversation. The new work involves a curious combination of abstraction and routinization, and, since there is little tangible evidence of work completed, a reduced sense of accomplishment.

Informing the Nation

The old image of the Federal government struggling behind mountains of paper may soon change — but it won't happen overnight.

This OTA report examines the pressures mounting for the government to move away from paper-oriented processes and move to state-of-the-art electronic publishing. For example, the Justice Department has announced a nationwide data-transmission network to carry traffic by the Immigration and Naturalization Service, and the Department of Defense, the government's major publisher, is

Criminal Justice: New Technologies and the Constitution

As technology has swept along, it's garnered a few ardent supporters. Some of the biggest are police departments from Martinez to Maine. Police, both local and federal, have embraced new technologies helping them identify and apprehend suspects. Perhaps their most insidious use of these new technologies is for gathering evidence.

These technologies now afford the capabilities of electronic surveillance, the use of lasers to detect fingerprints, personal identification through DNA "mapping" or "typing," and the use of computer matching (the sharing of databases from unrelated sources, such as the welfare rolls, IRS and DMV). According to this newly released OTA report, this technological revolution in criminal justice also imperils individual rights and protections guaranteed in the Constitution of the United States.

The new technologies available to police are astounding, and the list is getting

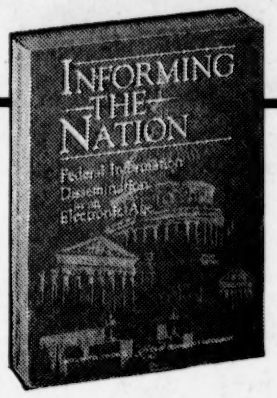
reducing its reliance on paper formats and shifting to electronic information. Yet this report notes that despite the billions of dollars that the government has invested in computers, Federal agencies will depend on traditional paper publishing methods for the next three to five years. After that, major changes are in prospect.

Sample chapters include: Alternatives for the Government Printing Office; Electronic Dissemination of Congressional Information; The Freedom of Information Act in an Electronic Age; The Electronic Press Release and Government/Press Relations. —Brock Meeks

•

The Supreme Court is planning for electronic distribution of judicial opinions. . . .

Online release of Supreme Court opinions could have regional significance. When several opinions are handed down on the same day, cases of regional interest are often overlooked by the national newspapers and news broadcasters. Online delivery of decisions could give regional news organizations greater autonomy in reporting their stories. The Court is currently considering the possibility of working with a single, nonprofit organization to serve as a depository or disseminator of opinions at the lowest cost to the public.



Informing the Nation
GPO #052-003-01130-1
1988; 333 pp.

$14 postpaid from:
Superintendent of Documents, Government Printing Office, Washington, DC 20402-9325; 202/783-3238.

bigger. In the area of electronic surveillance, the OTA found that law enforcement agencies — on all levels — already employ closed-circuit TV, light vision systems and image intensifiers, parabolic microphones, miniature transmitters, phone taps and recorders, monitoring of computer use, monitoring of electronic mail, cellular radio interception, satellite beam interception, pattern recognition systems, ultrasound and infrared radiation.

In the body of the report there is detailed discussion on the extensive use of various technologies and their potential for infringing on the rights that are guaranteed in the Fourth, Fifth, Sixth, Eighth and Fourteenth Amendments.

—Brock Meeks

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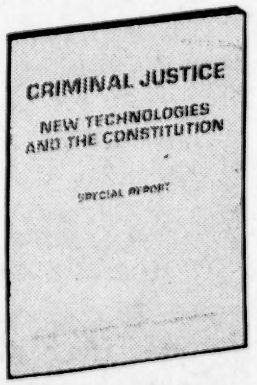
Since 1983, approximately 20 jurisdictions in 13 States have used electronic monitoring devices in probation and parole, presentence probation, work release, or house arrest programs. At least 12 companies are involved in making electronic monitoring equipment for correctional use. An appraisal of an electronic monitor, funded by the National Institute of Justice (NIJ), concluded that active monitors have "promise" as an alternative to traditional incarceration. . . .

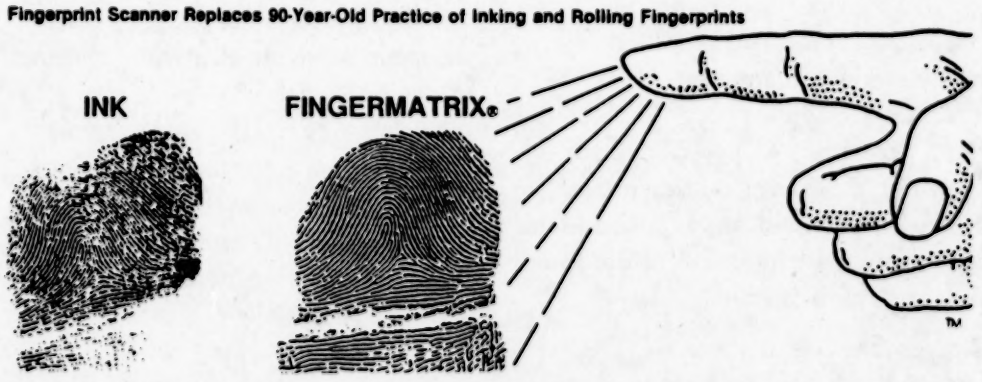
Some systems also use computerized "voice verification" to ensure that the respondent is actually the offender. One system has an optional second test that requires the offender to repeat a series of digits, using the telephone's touchtone keys. This tests manual dexterity as a possible indication of drug or alcohol use.



Criminal Justice
(New Technologies and the Constitution)
GPO #052-003-01105-1
1988; 54 pp.

$2.75 postpaid from:
Superintendent of Documents, Government Printing Office, Washington, DC 20402-9325; 202/783-3238.

Fingerprint Scanner Replaces 90-Year-Old Practice of Inking and Rolling Fingerprints



A proprietary electro-optical system scans and digitizes live fingerprints, eliminating inking and rolling. Ten-print fingerprint cards are generated for standard law enforcement use.

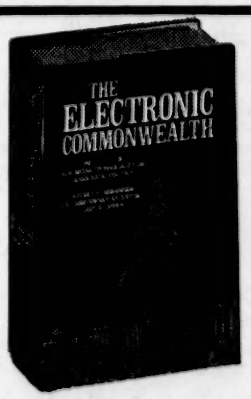
The Electronic Commonwealth

This book argues for the need to subsidize the development of "civic telecommunications networks" (what some call "information highways") in order to provide greater public access to decision-making and debate at all levels of government. It directly challenges the current notion that market forces alone should determine what information needs are met.

***The Electronic Commonwealth** is an undisguised effort to push the regulatory pendulum the other way. Worth reading whether or not you agree with the way it frames the questions. —Robert Horvitz*

•

Now is the time to raise fundamental value questions about how a democracy may best profit from the marvels of electronic communications. As we see it, the basic choice comes down to this. One choice is to use the new technology to quicken democracy and tighten the hold of public opinion over public policy. This is the politics of polls and plebiscites, electronic voting, and instant feedback schemes. The speed and reach of the new media can put such a politics into practice if we want it. Another choice is to use the new technology to slow down democracy, to involve more citizens than ever in meetings and debates, discussion, and dialogue. This is the politics of the electronic commonwealth and the televised town meeting. The congregating or conferencing capacity of the new media can put such a politics into practice if we want it. The choice between racing democracy and slowing democracy is ours. Only politics, not machines, can make that choice.



The Electronic Commonwealth
Jeffrey B. Abramson, F. Christopher Arterton, and Gary R. Orren
1988; 331 pp.

$21.95 ($23.45 postpaid) from:
Basic Books/Mail Order Dept., Rt. 3, Box 20 B, Hagerstown, MD 21740; 800/638-3030
(or Whole Earth Access).

GOOD VIDEOS:

INTERNATIONAL SATIRE

BY CORINNE CULLEN HAWKINS AND SARAH VANDERSHAF

Balkan Express

HERE'S A SLEW of foreign satires — relief from worldly woes through laughter instead of lobotomy. Like videos with a little bite? These are for you. All are available for rent by mail order from Facets Multimedia Inc., 1517 W. Fullerton Avenue, Chicago, IL 60614 (800/331-6197). —SV & CCH

Balkan Express (Yugoslavia, 1984)

Lily, Popeye, and Pik are a sweetly cynical trio of thieves who rob each other when they're not robbing the general public. When the Nazis invade Yugoslavia, the thieves head for the comfort and safety of a swimming resort owned by Lily's shotgun-toting aunt. To the thieves' delight, the resort's nightclub becomes a favorite hangout of the Germans. Like good patriots, the three decide to enrich themselves at the invaders' expense. In their first foray, they nearly kill the German officer they're trying to rob, but salvage the situation by convincing him that they saved him from drowning. No good deed goes unpunished, however. When photos of the heroic Popeye and Pik are splashed all over the local Nazi newspaper, the thieves become the targets of partisans out to punish them for their "collaboration."

Balkan Express is beautifully anarchic in its insistence that, on a scale of one to ten, war, politics, and patriotism are all zeros and greed rates a 12. One of the thieves sums up the film's philosophy when he says, "To me, politics is a load of shit. My life is finance." Inevitably, the thieves lose their battle against murder and cruelty, but they go down knowing they've fought for something they really believe in. —SV

And The Ship Sails On (Italy, 1983)

Italy, 1914: A cruiser embarks with the ashes of a great opera diva, to be scattered at sea. Onboard are the diva's friends, admirers, and rivals, as richly characterized as any of director Federico Fellini's creations — a psychic, a gossip columnist, a preening musical prodigy, an obese Austrian duke, a Caruso-esque tenor, and other members of European society's rich & fatuous.

Oh, yes, and the narrator — a pushy, garrulous journalist who takes us on a sumptuous and satiric ship's tour as he interviews guests about their relationships with (or opinions of) the defunct diva. Reality returns when the ship picks up a boatload of Serbian refugees fleeing the outbreak of World War I. An Austrian battleship arrives and makes a demand: turn over the Serbian "terrorists" or be sunk. Without giving away the ending, I can say that you'll be left with affection and hope for this silly, self-indulgent, but noble ship of fools. —SV

NB: Some of the subtitles on the Facets video are chopped half off, but because much of the story is told in music and images, the titles are easily deciphered. It shouldn't detract from your enjoyment of the film.

Playtime (France, 1967)

Jacques Tati stars as Monsieur Hulot, a hapless Everyman attempting to cope with the "modern" Paris of the mid-sixties, a squeaky-clean world of glass-and-steel skyscrapers encircled by eternal traffic jams. Citizens live in fishbowl-like apartments equipped with hideous vinyl furniture and TVs embedded in the walls. Everything reflects an obsession with uniformity, quiet, and convenience. The facade begins to crack during the grand opening of a chic new nightclub, where the carefully contrived order collapses into hilarious chaos. As the place literally falls apart, the revelers gleefully create a new club from the detritus of the old.

Playtime is partially dubbed into English, but dialogue is almost irrelevant to Tati's pantomime style. As director, Tati uses sound imaginatively, but he treats speech as just part of the ambient noise of modern life.

For years Tati's films were largely ignored. Lately they've received more notice, but I think the true era of the Tati renaissance will come in about a century, when 21st-century anthropologists rediscover his work. Along with Chaplin's **Modern Times**, **Playtime** will be an indispensable document of that long-ago era when people took their first bumbling steps into the Age of Technology. —SV

And The Ship Sails On

Tampopo

Dona Herlinda And Her Son (Mexico, 1986)

Dona Herlinda lives on a big estate with Rodolpho, her son, a neurosurgeon and her pride and joy. She doesn't mind Rodolpho's "close" relationship with Ramon, a music student at the Conservatory — she encourages it (going so far as to invite Ramon to move in and share Rodolpho's bedroom) in the most seemingly innocent way. Still, every Sunday she matches Rodolpho up with an eligible girl for an outing to her favorite lake resort. (Sulky Ramon comes along as Dona Herlinda's escort.) And she knows Rodolpho will marry and give her grandchildren.

So begins this offbeat mother-son story, with one sly twist after another. The characters are fleshed out and real — there are moments of pain. But there's plenty of zesty humor in the quirky ways Dona Herlinda and her son adjust or ignore the reality of their situation. This is a funny, astounding exploration of just how far denial — and love — can go. —CCH

Tampopo (Japan, 1987)

I can't watch this video without yearning for Japanese food. The focus is on ramen, a Japanese noodle soup, but a wild variety of other food is eaten, slurped, caressed, and dreamt of (including wild boar intestines filled with half-digested yams).

The plot is simple: a mysterious stranger pulls into town, rescues the struggling widow, and rides out again — your typical American Western. In this case, the widow is Tampopo, owner of a failing noodle restaurant and an indifferent cook. Goro, the truck driver, sets out to teach her the proper way to cook ramen. Obstacles are faced valiantly, battles are fought, lost, then won, and triumphing over adversity, Tampopo finally serves the perfect ramen in her beautifully renovated shop.

Both Japanese aestheticism and rugged Western values are satirized in hilarious style while the video draws odd and intriguing parallels between the sensuality of food and day-to-day life. Some scenes had me slack-jawed in amazement. Funny, unpredictable, and gloriously sensual, this video is a delight to watch. —CCH

The Kiss of Mary Pickford (U.S.S.R., 1927)

This video exploded my stereotypical picture of gloomy Stalinist Russia. The unbounded enthusiasm for films and the idol-worshipping of Mary Pickford and Douglas Fairbanks seemed so . . . so . . . American!

Goga Palkin, a lowly ticket-taker at the cinema (played by dopey-faced Igor Ilinsky), has to become a star to win the girl, a movie-mad would-be starlet. How he achieves that end hinges on the Moscow visit of Mary Pickford and Douglas Fairbanks. Film footage of the American stars' actual Moscow visit is cleverly intercut and woven into the plot. (Bet Doug and Mary weren't paid for their work, though.)

It's a clever joke, cleverly pulled off, but the movie is funny in its own right. Igor Ilinsky is a master comedian and the plot is full of satirical digs at bureaucracy, scientific research, and filmmaking, while championing the less-than-perfect Everyman. —CCH

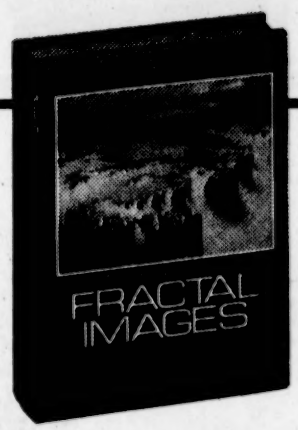
The Discreet Charm of the Bourgoisie (France, 1972)

Four French yuppies arrive at a friend's country house for dinner — on the wrong day. No problem. They go to a nearby roadhouse to eat, only to find the newly dead manager's corpse laid out near the dining room. They skip dinner.

Thus begins a series of dinner parties in which the participants are destined never to get fed. Each party is interrupted by some bizarre event. One dinner is revealed to be a play, with the dining room as a stage set and the diners as actors. Another is invaded by soldiers on maneuvers, who promptly plop down in the living room and pass around a joint. By such scenes, director Luis Bunuel mocks the mannerisms of the middle class, people who truly believe that you can measure a man's refinement by the way he drinks a dry martini. The satire is subtle, insidious, and seductive — a wink and a smile at the charming absurdities of society's "better" class. —SV ■

The Science of Fractal Images

The Black Spleenwort fern. One of the four affine transformations in the IFS which generates the set is illustrated. The Collage Theorem provides the other three. Observe that the stem from C to $\tilde{C}$ is the image under one of the affine transformations of the whole set.



The Science of Fractal Images
Heinz-Otto Pietgen
and Dietmar Saupe, Editors
1988; 312 pp.

$39 ($41.50 postpaid) from:
Springer-Verlag, 44 Hartz Way,
Secaucus, NJ 07094; 800/777-4643
(or Whole Earth Access).

Once a mathematical curiosity, fractals have become a major Hollywood star. Fractal formulas guide the creation of simulated natural landscapes in computerized special effects. They've got mountains and grasses down pretty nicely, and can simulate music as well. More than anything else, fractals have made visible the secret life of mathematics — the self-ordering spark within numbers. Here's the most up-to-date source for fractal algorithms and applied science. Gossip and pictures of the star, too. —Kevin Kelly

•

To landscape painters, clouds seem to pose a severe challenge, but one has achieved fame for his prowess. His name was Salomon van Ruysdael (1602-1670), and he brings to mind a question and a story. The question is whether fractal geometry can help compare the clouds by Ruysdael and those by Mother Nature. . . . Elizabeth Carter was an undergraduate in meteorology at the University of California at Los Angeles (UCLA), in the group of Professor George L. Siscoe. Her hobby is photographing clouds, and she had found a nice way of getting academic credit for it. They evaluated the fractal dimension for many varied clouds' contours (as seen from a nearly horizontal direction, which is not the same as Lovejoy's views from the zenith). They found that Nature's clouds' D varies over an unexpectedly broad range, while Ruysdael's clouds' D is far more tightly bunched. In hindsight, the result was as expected: the painter chose to paint clouds that are dramatic, yet not impossible, hence his clouds' D's are near Nature's maximum.

Mathematica

This software program will become as important to those who work with equations as spreadsheets are to those who work with finance. First of all, it's a super-duper calculator that knows algebra and calculus. By providing lightning-quick response to problems that otherwise would require hours of calculation, it frees scientists, engineers, students, and math freaks to go further afield, to experiment, to follow their intuitions to the next step of the problem.

But that's only the beginning. Mathematica can display equations as graphics. Its dazzling command of the world of numbers makes it an ideal teaching tool. And it is designed to be used not only as an application, but a complete computer language; designer (and world-class scientist) Stephen Wolfram hopes that one day his creation will be a standard language — a BASIC for the next century — and ultimately usher in a new golden age of mathematics.

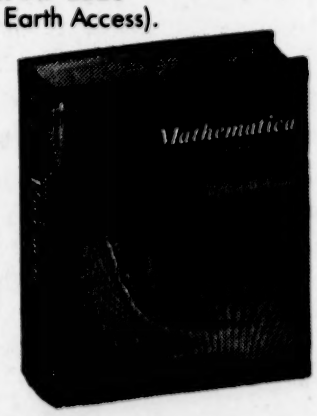
It's expensive (especially if you have to beef up your computer to meet its demands in power and memory), but if you need to use higher mathematics at all, it's worth it. Option for kibbitzers is to buy the book, Wolfram's excellent, in-depth guide to the program, and go from there. —Steven Levy

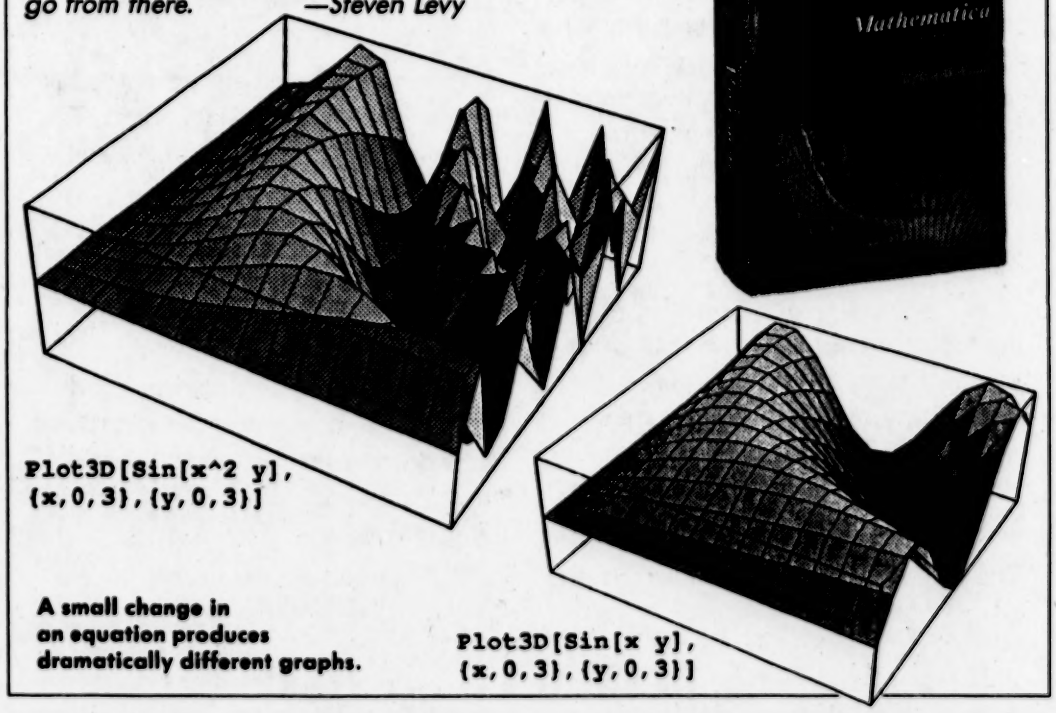
The thing that got me about Mathematica is that it can find an equation for a graph. Any knuckleheaded chart program can figure out how to plot data into a line, but it's taken a genius like Wolfram to teach a computer how to provide the equation that fits the line that you've plotted. Mathematica works in reverse, too, plotting 3-dimensional images of any equation you give it. What a way to learn calculus! Let's see, what does it look like (no metaphor here) when we alter the equation thusly? I'm not qualified to judge its ability to solve advanced complex equations, but the working scientists I know who depend on math to get through the day have been wowed by it. —Kevin Kelly

Mathematica: Not copy-protected. For Macintosh, MS-DOS machines; requires 2.5 MB. **$495** (Macintosh), **$695** (MS-DOS) from Wolfram Research, Inc., P. O. Box 6059, Champaign, IL 61821-9902; 800/441-6284.

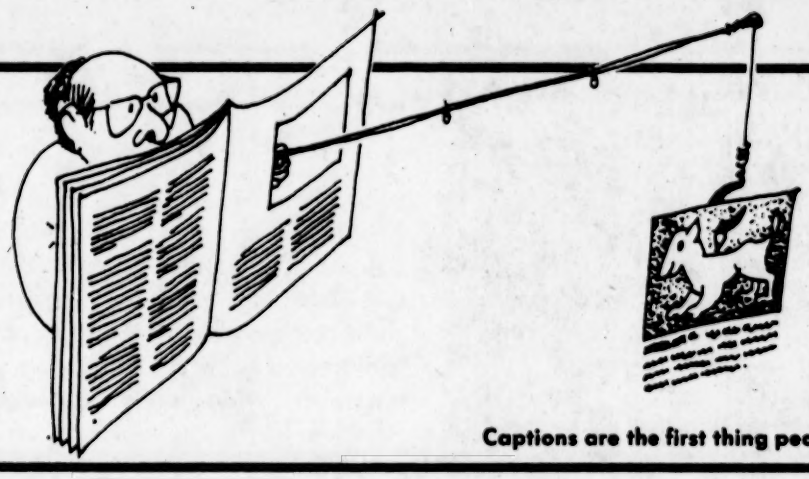
Mathematica
Stephen Wolfram, 1988; 749 pp.

$29.95 postpaid from Addison-Wesley, 1 Jacob Way, Reading, MA 01867; 800/447-2226
(or Whole Earth Access).





A small change in an equation produces dramatically different graphs.



Captions are the first thing people read.

demands concentration and work; looking at images is fun.

The recipient is receptive. The mood is right. Here is a chance to present vivid, interesting information. Is it not wise to exploit this built-in opportunity? That uninterested skimmer, who didn't intend to delve into the subject at all, may well be intrigued by an irresistible gobbet and become hooked into reading. That is why captions are so important.

Graphic Design for the Electronic Age

*In **Editing by Design** (**EWEC** p. 314), Jan White taught how to use pictures, page layouts and type to make publications look good. He wrote in a way that even editors could understand. Now he performs the same service for computer people.*

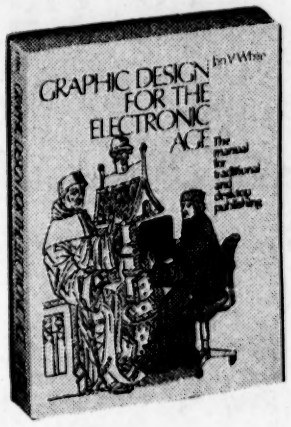
***Graphic Design for the Electronic Age** concentrates on typography, not pictures — but that, after all, is what many people use desktop publishing for exclusively. In the class I teach on desktop publishing, I assign both of White's books. Most design books give you ideas; here, you come away with your inner eye improved, and your graphic judgement sharpened.*

—Art Kleiner

•

Picture captions are the most undervalued and therefore most misused page component in most publications. That is because they are usually written under the deadline gun and are not much more than afterthoughts. They tend to be seen as those less-than-important words needed to explain or identify a graphic item, which in turn is seldom deemed as important as the text. To most writers and editors, captions, legends, or cutlines are a nuisance.

Yet it is precisely the pictorial graphic items (with their verbal explanations) that are looked at first when the new page is revealed. They are glanced at and studied before the text and often even before the title is read. . . . Anything that breaks a pattern stands out and makes us notice it. Furthermore, pictures are easy to take in. Reading



Graphic Design for the Electronic Age

Jan V. White, 1988; 211 pp.

$35 ($37 postpaid) from Watson-Guptill Publications, P. O. Box 2013, Lakewood, NJ 08701; 201/363-5679 (or Whole Earth Access).

The Elements of Spreadsheet Style

*A book of precepts for using the living ledger pages — computer spreadsheets — that are well-nigh ubiquitous in business, but rarely employed to their full capabilities. The author — a small software company president — has taken on the role of a spreadsheet Strunk and White; like its namesake **The Elements of Style** (the classic primer on clear writing), this is organized around precepts, useful with any spreadsheet program (1-2-3, Excel, Quattro, et cetera). I particularly appreciate the suggestions for making sure that your spreadsheet communicates well to other people; and the methods for helping make sure that it reflects the world outside your computer accurately and honestly.*

—Art Kleiner

•

Never release a spreadsheet for use until you have read the whole thing on paper. Paper is quiet. Paper is large. Paper allows your eye to range over the entirety of the model. Paper gives your common sense a chance to engage the model's results in a dialogue.

•

Surface and label every assumption.

One of the most serious errors of spreadsheet modeling is burying an assumption. A raw number — a constant, a factor, or a rate — can lurk submerged in a formula in the model. Such an assumption must be forced to the surface and clearly labeled. It should be placed *before* the model in the Initial Data Area.

Surfacing an assumption gives you opportunity to label it. This label can go a long way towards explaining the true nature of the model.

•

Test and edit.

A correct model requires testing, just as clear English requires editing. As you work on your model in solitude, you should do both: test your spreadsheet by varying the initial parameters and seeing if the appropriate conclusions are altered in the expected ways; edit your comments to make sure they stay current with the model as you build and revise it.

•

Do your first thinking with pencil and paper. Design can encompass many things, but one thing is certain: your first idea will not be your last and only rarely will it be your best. Ideas demand editing. You will need to react to your initial impulse, to brood over your vision, to rearrange, to revise, to rethink. All of this is much easier done on paper. If you resist the intemperate urge to type on the computer and instead deliberate over your initial design on paper, you will complete your whole project faster.

If you cannot resist the urge to leap to your computer and begin typing, please think of your first efforts as being "paper" efforts. Use nonsense collections of letters such as "xxx yyy xxx" to simulate text, and rows or columns of 99999.99 to simulate quickly what a block of numbers will look like. Move blocks of your spreadsheets around until you have a good feel for the gross arrangement of the whole model. In short, tell yourself that your first efforts are to sketch a preliminary design and to mull over basic ideas.

The Elements of Spreadsheet Style

John M. Nevison, 1987; 197 pp.

$12.95 postpaid from: Prentice-Hall/attn.: mail order, 200 Old Tappan Road, Old Tappan, NJ 07675; 201/767-5937 (or Whole Earth Access).

Andrew Dick

A Poor Man's Reference Library

by Andrew Dick

WHEN I WAS YOUNGER, I knew just about everything worth knowing. As I grow older, I find there has been an alarming increase in things I know nothing about. Thankfully, a reborn curiosity and some used reference books are helping me close the gap again.

Although more information is available to the general population than ever before, most of us are less informed than we imagine — even about things we like to think we know. If you really want to know something, you can probably get the information. But most likely you'll go digging only when you're onto big projects or burning questions. Little questions, puzzlements you come across in daily life will be lost to you because you can't find the answer in a few minutes. Once you have a few reference works at home, you'll be surprised how often you'll rise from a dinner conversation with the words, "Well, let's find out," and return to the table with one of these books. It's a good habit that's easy to develop once you have a few books around. If you have kids, what better gift to give than the joy of pulling out a book. Often you discover the most fascinating things on the way to looking up something else. All it takes is an ear for what you really don't know.

What I have compiled here is not a wish-list; the emphasis is on the cheapest, most useful works that are generally available. Before doing anything else, look for reference works you already have. Put them in the middle of where you live and use them. (Most of us have national or regional road maps, but use them only when traveling. Why not keep a copy in the house?) When you can't find the answer in your home collection, you'll know what you need.

Used-book stores, thrift shops, sales flyers, and cut-out shelves are where I do most of my shopping. Cut-outs (also called remainders) are volumes offered by some large book companies and bookstores at discounted prices. They are books that either didn't sell very well, or have been superceded by later editions. Some publishers and book companies send sales flyers offering cut-outs and special-priced books. I don't know how I got on the mailing lists, but I seem to get something every few months. You might write to one of the largest outfits, Barnes & Noble (126 Fifth Avenue, New York, NY 10011-5666) and ask for a catalog. Barnes & Noble bought out B. Dalton Booksellers, and you can often find cut-outs from Barnes & Noble in those "minimum-service" bookstores.

I am an ex-logger and lapsed trial lawyer, living in Minneapolis where I'm finishing Standing on the Wheel: Sunken Images from the Wreck of Oedipus, *a book on psychology and mythology.*
—Andrew Dick

1. WORDS

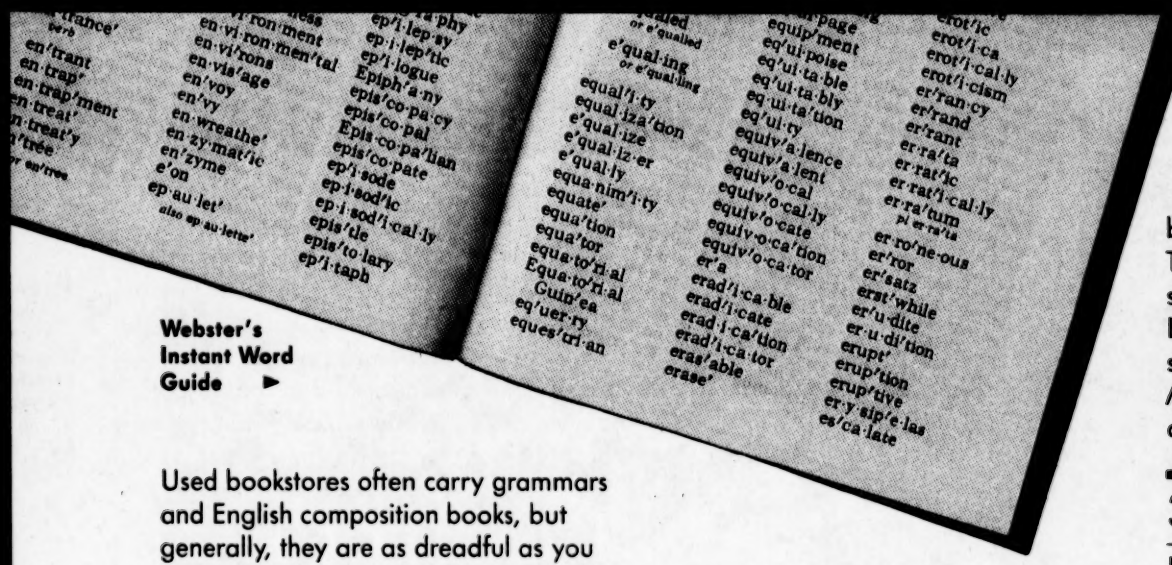
A good dictionary should be first on your list of reference books. Besides definitions and spellings, many dictionaries contain etymologies, maps, and short sections on such things as basic grammar, U.S. history, and foreign words and phrases. Most people don't know what's in their dictionary; check it out.

You can find cheap paperback dictionaries at discount stores like K-Mart for less than $5, but I wouldn't bother with them. Although prices aren't as low as you might expect, a used-book store is probably your best bet. Don't ignore old dictionaries; most of us don't need to look up "astronaut" or "yuppie." Connoisseurs with a little extra cash might want to hunt for a used *Webster's Third New International.* It's probably the best dictionary in America; it's a giant and used-book stores sell it for around $45. Barnes & Noble (B&N) and most B. Dalton bookstores carry the massive *Webster's New Universal Unabridged Dictionary* as a cut-out for only $19.95. It's huge-er than it is excellent; still, it's pretty good, and it's a bargain. Keep your dictionary out where it's handy — particularly if you get one of these behemoths. If you have to run to another room to haul out a 15-pound book, you probably won't use it.

I have a paperback *Merriam-Webster* that's followed me since high school, and a hardback *New Webster's Dictionary* I picked up several years ago for $16. When I'm really serious, I grab the Compact Edition of the *Oxford English Dictionary.* The *Compact OED* (offered as a bonus by the Book-of-the-Month Club (BOMC) for about $28) is a real bargain. It's hard to get more for the price. Used-book stores generally sell the set for $85 and up. I'd hate to imagine what they go for new.

While the *OED* is the most authoritative (and delicious) dictionary in the English language, the *Compact OED* is a pain to use. The print is *tiny;* most people have to use the magnifying glass provided with the set — this is not a book for browsing.

Not so long ago, we were told that the television and telephone threatened to "obsolete" the written word. Strangely enough, technology has come to the rescue of balding English professors: computers — electronic mail and desktop publishing — have brought the written word back into favor. Everybody's writing can use improvement, and there are plenty of new books that offer help.



Webster's Instant Word Guide ►

Used bookstores often carry grammars and English composition books, but generally, they are as dreadful as you remember. On the other hand, nearly everyone is happy to re-read Strunk and White's *Elements of Style.* It's a classic — you'll be glad you got it, and so will the people who read your writing. You can find it in used-book stores or as a special premium for joining the Quality Paperback Book Club (QPBC). And, if you're lucky, you can find Donald Hall's superb *Writing Well* (not to be confused with William Zinsser's much publicized, but inferior, *On Writing Well*) in a used-book store. It's a college text, so you won't find it in most used-book stores. But it's so good you might want to special-order it and pay full price.

If you like words, you'll want a book on word origins. Even if you're not in love with words, etymologies can give you a whole different slant on things. *Origins: A Short Etymological Dictionary of Modern English* by Eric Partridge is a gem. It's out of print, but I picked up a copy for about $12. (It listed for a shocking $45.) It's still out there and being sold at a discount. Check the latest B&N catalog, and everywhere else because *Origins* is definitely worth looking for; it's an excellent reference and lots of fun to browse. Though it's impossible to beat Partridge for price, quality, and general usefulness, you can find Joseph Shipley's *Dictionary of Word Origins* and similar works at the cut-out shelves or used-book stores. *Brewer's Dictionary of Phrase and Fable* (on sales flyers for about $15; QPBC offers the new paperback edition for $16.95), and *Morris Dictionary of Word and Phrase Origins* are not strictly etymologies, but they're useful and fun nevertheless.

Unless you're William Buckley (and even if you are), you'll want a thesaurus. When your language is stale, often it's your ideas that are tired. A thesaurus, coupled with a dictionary, can be a great help. *Roget's* is the most famous, but there are lots of others. You'll find an assortment in most bookstores. I got J. I. Rodale's *Synonym Finder* from QPBC. B&N offers a hardback version for $12.95 and you can find *The New Roget's Thesaurus in Dictionary Form* for $8.95 as a cut-out.

One of the most handy reference works I have is *Webster's Instant Word Guide.* I got it free for subscribing to *Atlantic.* It's a spelling guide, a dictionary without the definitions. A very small book, it's much quicker and easier than using the dictionary. There are other similar works; I've heard good things about *Webster's New World Speller.* You can pick that one up for about $2.

2. ATLASES

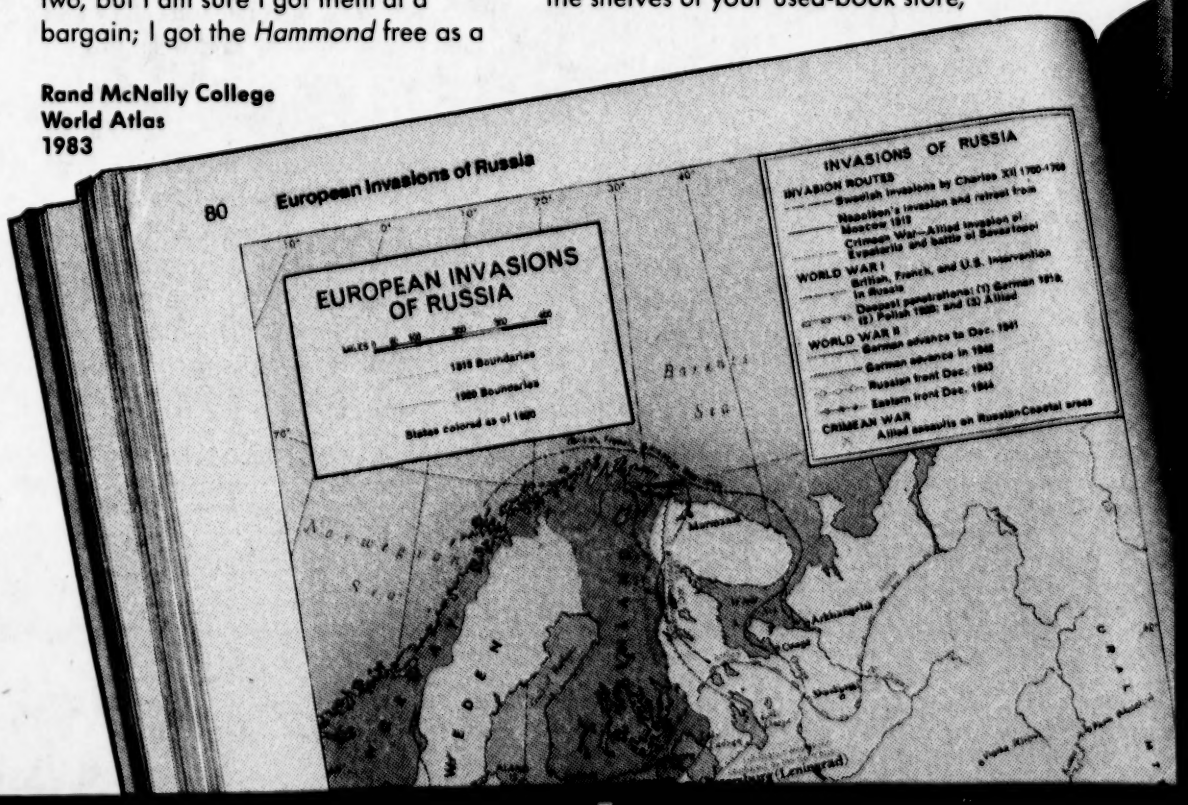
Given the dismal state of America's knowledge of geography, an atlas should be right up there on your list. A friend of mine asked his graduate students at the University of Georgia if they could find Vietnam on a map. The class just laughed. Ditto for Japan.

There are lots of atlases around and they vary in quality and price. Some atlases have sections on evolution, geology, and meteorology. A good general-purpose atlas will have information on physical features, political boundaries, population density, agricultural and industrial activity, mineral deposits, and population statistics. I have three: *Rand McNally Atlas of World History, Rand McNally Illustrated Atlas of the World,* and the *Hammond World Atlas.* I can't remember how much I paid for the first two, but I am sure I got them at a bargain; I got the *Hammond* free as a bonus for subscribing to *Time Magazine.* The *Rand McNally Universal World Atlas* sells for $19.95 on the cut-out shelves, B&N catalog, and B. Dalton and is quite serviceable. You can also find the *Rand McNally Comprehensive World Atlas* discounted to $24.95.

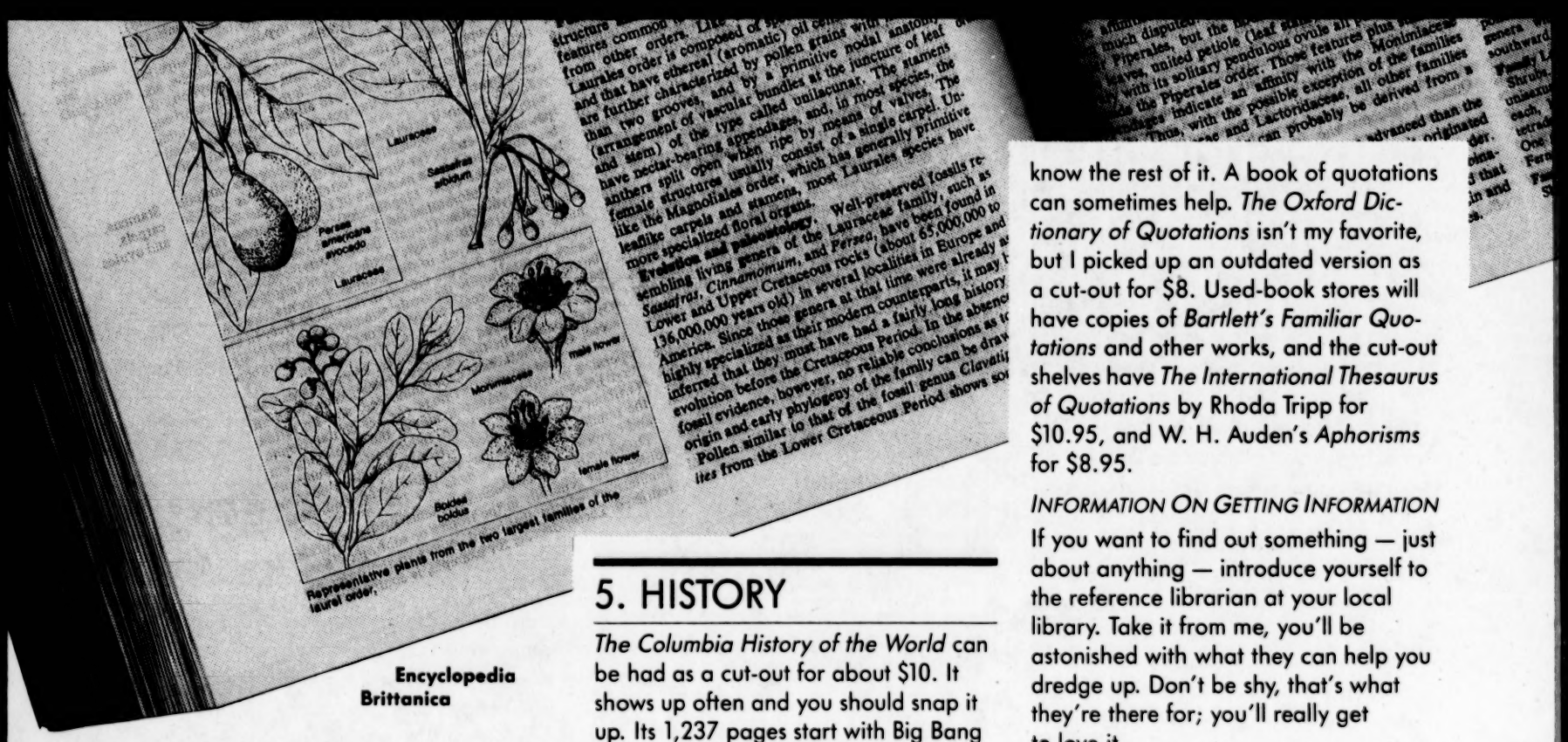
3. ENCYCLOPEDIAS

I picked up the one-volume paperback edition of the *Concise Columbia Encyclopedia* as a cut-out for about $12 but I've recently seen it for $10. It's a great bargain and a very useful book: highly recommended. Often, this is the first place I turn when I have a question. The articles are short, but they often have what I'm looking for. It covers an amazing amount of territory. Keep it handy around the house; in the bathroom, on the bedside table, or in the living room and don't forget to take it on long car trips. You can find the (physically) larger hardback version in used-book stores for about $15, and the old, two-volume *Columbia/Viking Desk Encyclopedia* for about the same price. I recommend the paperback because it's smaller and easier to transport; you'll use it more.

We had an encyclopedia at home while I was growing up — I hardly touched it. Ah, kids. Recently, I was able to redeem my youthful indolence when I got an old set of the *Encyclopedia Brittanica* for the low price of just hauling it away. The *Brittanica* is one of the very best encyclopedias; larger articles are written by respected people in their fields and often give a short bibliography. Some used bookstores carry encyclopedias, often at surprisingly low prices; I just saw a nearly new *World Book Encyclopedia* for $110. If you don't find any on the shelves of your used-book store,



Rand McNally College World Atlas 1983

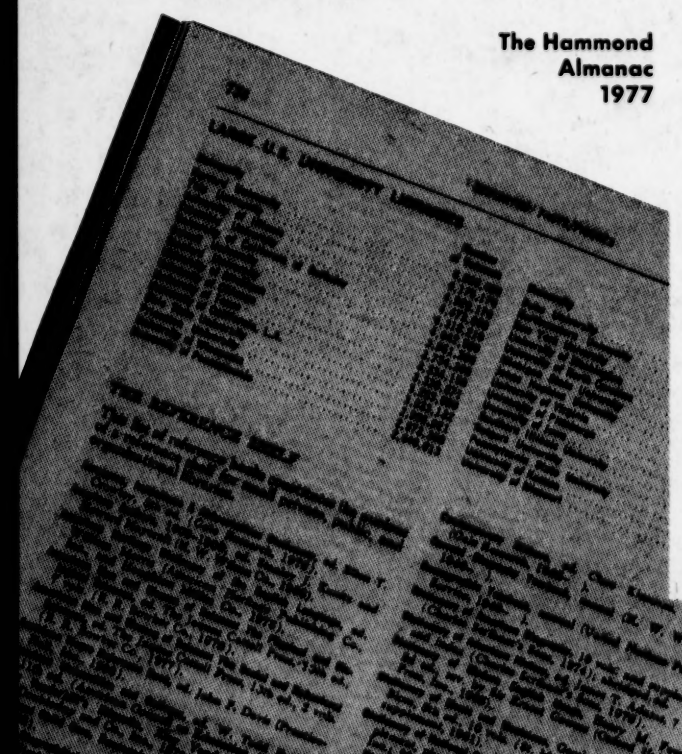


Encyclopedia Brittanica

ask the manager; they're often kept in the basement. You can also find encyclopedias at estate and library sales, and thrift stores; complete sets can go for as low as $35. B&N offers a new 21-volume *Academic American Encyclopedia* for $199. Whichever encyclopedia you get, make sure you learn how to use the index. If you don't, you're wasting half the encyclopedia.

4. ALMANACS

There is a host of annual publications providing statistical data and all sorts of odd facts: *World Almanac, Information Please Almanac, Facts on File,* and yearbooks from the major encyclopedias. The yearbooks focus on the major events of the year. While almanacs have a similar focus, they include other, more general information. Almanacs are relatively cheap to buy new, but even so, I've found no pressing need to keep up to date. You can find recent editions in used-book stores.



The Hammond Almanac 1977

5. HISTORY

The Columbia History of the World can be had as a cut-out for about $10. It shows up often and you should snap it up. Its 1,237 pages start with Big Bang and end with our postwar muddle. It's biased towards Western history, but does a decent job. There are often quite a few college texts on world history in used-book stores, but I haven't found them as attractive or as broadly focused as the *Columbia.* But check around, you might find something good.

Also useful is Bernard Grun's *Timetables of History.* It is just like it sounds: no meat but lots of fragments. Published at $25.95, it can be found as a cut-out for $14.95.

6. MISCELLANEOUS

Book Of Quotations

Sometimes you remember part of a biting remark by Twain, or a beautiful line of Shakespeare, and you'd like to know the rest of it. A book of quotations can sometimes help. *The Oxford Dictionary of Quotations* isn't my favorite, but I picked up an outdated version as a cut-out for $8. Used-book stores will have copies of *Bartlett's Familiar Quotations* and other works, and the cut-out shelves have *The International Thesaurus of Quotations* by Rhoda Tripp for $10.95, and W. H. Auden's *Aphorisms* for $8.95.

Information On Getting Information

If you want to find out something — just about anything — introduce yourself to the reference librarian at your local library. Take it from me, you'll be astonished with what they can help you dredge up. Don't be shy, that's what they're there for; you'll really get to love it.

Still, for all the wonders waiting at your library, you can do a lot of detective work at home with a letter or a telephone call. There are thousands of organizations out there willing to answer questions. *Information U.S.A.,* by Matthew Lesko, has the names and addresses of federal government bodies that are often happy to supply you with information on topics from potato viruses to college loans. I bought *Information U.S.A.* new for $19.95, but I've seen it on cut-out shelves and in used-book stores. *Instant Information,* by Joel Makower and Alan Green, lists for $19.95 and focuses on private organizations. Both books are easy to use. Though you might have to wait awhile for answers, you're more likely to ask questions if you have names and addresses right at hand.

So, How Poor Will I Be To Get So Smart?

Well, that depends on how carefully you shop and how much you want to know. Start small and use what you have. Add to your collection a bit at a time as your curiosity and willingness to admit ignorance grow.

Bargain Basement: $30.

You probably already have a national road map, so you'll want to pick up a good dictionary and the *Concise Columbia Encyclopedia.* These are the Basics. They'll give you some history, science, maps, a grammar, and the shoehorn into nearly everything else — words.

Respectable, But Modest: $65.

The Basics, plus *Columbia History of the World,* an almanac, and an atlas.

First Class: $120-$220.

The selections from "Respectable, but Modest," plus a multi-volume encyclopedia, and one of the *Information* books. Word lovers will want to add Partridge's *Origins,* a thesaurus, *Elements of Style* or *Writing Well,* and a book of quotations.

Deluxe With Air-conditioning, Overdrive, And All The Options: $Ouch.

You don't have to be rich to dream the dreams of avarice. My dreams include one of everything, plus: *The Great Thoughts: Dictionary of the History of Ideas* (5 vols.); *Encyclopedia of Philosophy* (4 vols.); *Benet's Reader's Encyclopedia; Oxford Companion of the Mind; Chambers Science and Technology Dictionary; A Dictionary of Symbols; History of Art; Dictionary of Foreign Words and Phrases; Dictionary of Scripture and Myth;* and . . . ■

Study the Latin, I pray you

BY C. J. HINKE

THE VALUE of the new age is based upon the teachings of the old age. Our co-evolution takes place as we learn to fit the lessons of the past into modern life. This bears true even for the United States, which almost always thinks itself exempt from such paradigms.

Proximo die miles barba viridi mane ad Terriculum venit et dixit,

"Veni mecum, Oz enim te arcessivit."

Terriculus ergo eum secutus admissus est in Aulam grandem, ubi mulierem amabilissimam, in solio viridi sedentem, vidit. Sericis viridibus vestita erat et in cirris fluentibus viridibus coronam gemmatam gerebat. Ex umeris crescebant alae, resplendentes colore et tam leves ut aura minutissima tacta agitarentur.

The founding fathers all knew the classics even if they had little formal education; the classics were so important that they formed the basis of an education at home. A classical education consisted not only of the study of Greek and Latin, but the study of history, politics, geography and mythology taught through the medium of classical language and thought. Thinking people in that age, Thomas Jefferson, James Madison, were quite as comfortable in Latin and Greek as they were in English.

Greek was essentially dropped from the college and high-school curriculum in the 1920s; today only nine private high schools teach ancient Greek in the United States. Latin was dropped from 80 percent of high schools during the search for relevance in the 1960s when colleges and universities dropped their language requirements for both admission and graduation.

While scores dropped markedly over 15 years, in 1980 Latin students scored 20 percent higher than the national average for students taking the Scholastic Aptitude Test. There is obviously a correlation between language proficiency in the orderliness and regularity of Latin grammar and mathematical skills, reading comprehension, vocabulary skills, spelling.

All these come naturally to the Latin student not because Latin is essentially difficult (quite the opposite is true) and therefore Latin attracts superior students, but because the language itself encourages precision both in thought and expression.

After watching literacy decline through the 1970s, Latin began to be taught in U.S. elementary schools, usually starting between the fourth and sixth grades. The purpose in this early instruction was not to produce language scholars but to improve basic English language skills. This proved most effective in inner-city schools in Los Angeles, Philadelphia, Washington, Indianapolis and Cincinnati, where school budgets were drastically cut, leaving no alternative programs for the lowest-achieving children. Fifteen to 20 minutes of daily instruction in Latin resulted in five months' overall academic growth and a full year's language growth for children in over 100 elementary schools.

The real relevance of Latin to our lives is not higher SAT scores or advanced computer capabilities or even accelerated cultural understanding, but is related more to the quality and beauty in our lives. The real learning comes from seeing ourselves reflected and refracted in the ancients and their way of thinking about and looking at life, to learn from their experience, and to have cultivated the ability to express what we have learned.

Study the Latin, I pray you . . . ■

All of the above has been a shameless plug for our book: ***The Classical Wizard/Magus Mirabilis in Oz.*** L. Frank Baum, 1900; translated by C. J. Hinke and George Van Buren, 1987; 259 pp. **$19.95** ($22.95 postpaid) from Scolar Press, 2430 Bancroft Way, Berkeley, CA 94704; 415/548-0585 (or Whole Earth Access).

A Short Bibliography Of Other Children's Books In Latin

Carroll, Ludovici, *Alicia In Terra Mirabili*, Clive Harcourt Carruthers, New York: St. Martin's, 1964.

Aliciae Per Speculum Transitus, ibid., London: St. Martin's/ Macmillan, 1966.

(Disney, Walt), *Donaldus Anas Atque Nox Saraceni; Scrugulus Et Radius Contra Procellam*, Recanati, Italy: European Language Institute, 1984.

Leaf, Munro, *Ferdinandus Taurus*, Elizabeth Chamberlain Hadas, New York: David McKay & London: Hamish Hamilton, 1962.

Milnei, A. A., *Winnie Ille Pu*, Alexander Lenard, 6th ed., New York: E. P. Dutton, 1984.

Nash, Ogden, *Ave Ogden! Nash In Latin*, James C. Gleeson & Brian N. Meyer, Boston: Little, Brown, 1973.

Potter, Beatricis, *Fabula De Petro Cuniculo*, E. Peroto Walker, London: Frederick Warne, n.d.

Fabula De Jemima Anate Aquatica, Jonathan Musgrave, ibid., 1965.

de Saint-Exupery, Antoine, *Regulus Vel Pueri Soli Sapiunt*, August Haury, 1st ed., Paris: Fernand Hazan, 1961; 2nd ed., New York: Harcourt, Brace, 1985.

Travers, P. L., *Maria Poppina AB A-Z*, G. M. Lyne, New York; Harcourt, Brace & World, 1968.

White, E. B., *Tela Charlottae*, Bernice L. Fox, 1st ed., Galesburg, Illinois: Wagoner Printing, 1985, 100 copies; 2nd ed., ibid, 1986, 500 copies.

City

A quick glance at the downtown of most cities reveals a grim decay, sometimes with a halfhearted attempt at rejuvenation that is even more depressing. There are lots of theories concerning why, and what to do about it. There is opportunity for greed and innumerable, endless studies. But what's really going on? William H. Whyte (of ***Organization Man*** *fame) takes a look, from the street, from above the street, with hidden cameras, with notebook in hand, and comes up with what is probably the most accurate view of city life yet seen. It's a hopeful, positive view (in contrast to my own; I think that nature doesn't permit big cities in the long run). But Mr. Whyte is so witty and so obviously sharp-eyed that his view is convincing. I look at cities with new eyes, thanks to Mr. Whyte. —J. Baldwin*

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It is a well-known fact that small cities are friendlier than big ones. But are they? Our research on street life indicates that, if anything, the reverse is more likely to be the case. As far as interaction between people is concerned, there is markedly more of it in big cities — not just in total numbers but as a proportion of the total.

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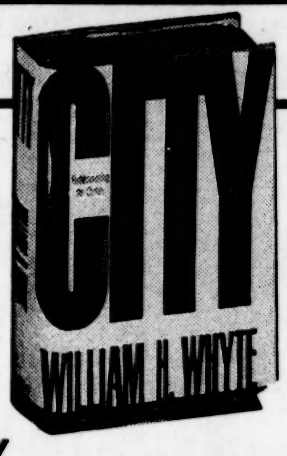
People are told that food vending is bad for downtown business, bad for traffic, bad for them and their health. But people do not believe this. They like eating out-of-doors. They like the choices. They like the prices. They prefer a hot



City
(Rediscovering the Center)
William H. Whyte, 1988; 386 pp.

$24.95 ($26.95 postpaid) from: Doubleday & Co./Cash Sales, P. O. Box 5071, Des Plaines, IL 60017-5071; 800/223-6834 ext. 479 (or Whole Earth Access).

dog and a soda they can afford ($1.65) to a fuller lunch they cannot. So they buy. The vendors are providing what the established order is not.

There is a vacuum and it is of the city's own making. Take New York's Sixth Avenue. Once it was lined with places to eat: delis, cafeterias, Irish bars, coffee shops. New office building construction, spurred by incentive zoning, did away with these places. In their stead were plazas and bank windows. But no food. Not even a snack. Then vendors came. Then more. Today the sidewalks are full of them, lined up sometimes six to eight in a row. The revenge of the street.

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I don't wish to be Pollyanna. There are dangerous places in the city, and dangerous times. But it is important to differentiate between kinds of people — between the mugger, say, and the vendor. Many businessmen and civic leaders do not differentiate. Being themselves insulated from the life of the street, they lump all its people as undesirable, and some leaders would be quite happy if they were eliminated altogether, a result that their policies in some cities are calculated to bring about.

They should be working in the other direction. The time to worry is when street people begin to leave a place. Like canaries in a coal mine, street people are an index of the health of a place.

This is not reflected in the kind of city rankings lately so popular: the ten best quality-of-life cities in the U.S., the twenty happiest communities, and so on. Cities like New York go at the bottom, the top going to communities that could also qualify as the highest on any blandness index.

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Most well-used places have a "mayor" of sorts. He may be a building guard, a newsstand operator, or a food vendor. Throughout the day you will notice people checking in with him — a cop, perhaps, a bus dispatcher, various street professionals, and office workers and shoppers who stop by briefly for a hello or a bit of banter. The mayors are great communication centers, and they are quick to spot any departure from the normal life of the place.

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The best way to handle the problem of undesirables is to make a place attractive to everybody else. The record is overwhelmingly positive on this score. With few exceptions, center city plazas and small parks are safe places.

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The best-used spaces have a high proportion of couples and groups. They also have a high proportion of women.

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If you want to know what fine feature is going to go next, look at the title of the newest development. It customarily is named for that which it will destroy.

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If Americans would widen their walking radius by only two hundred feet, there could be a revolution in U.S. land use.

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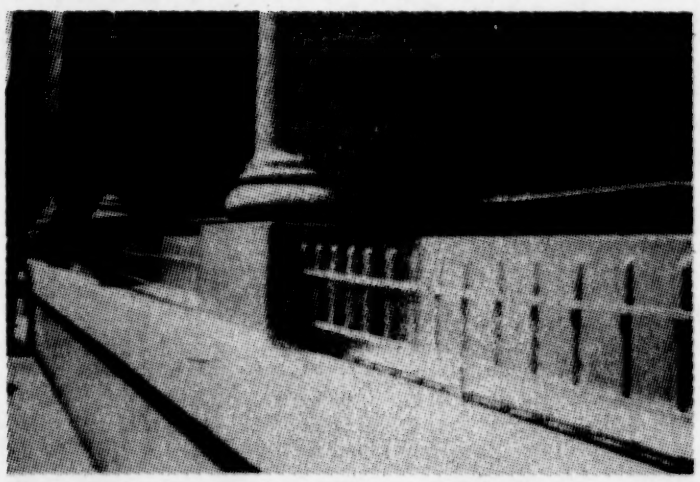
It is the genius of the Center City that it is not high-tech. As far as essentials are concerned, it has little more than did the agora of ancient Greece.



Bank ledges on 57th Street made fine all-purpose space.

An excellent podium for girl-watching.

The bank put in spikes.

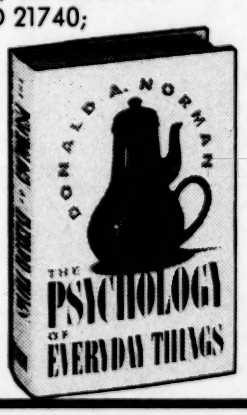
Vendors used them as display racks.

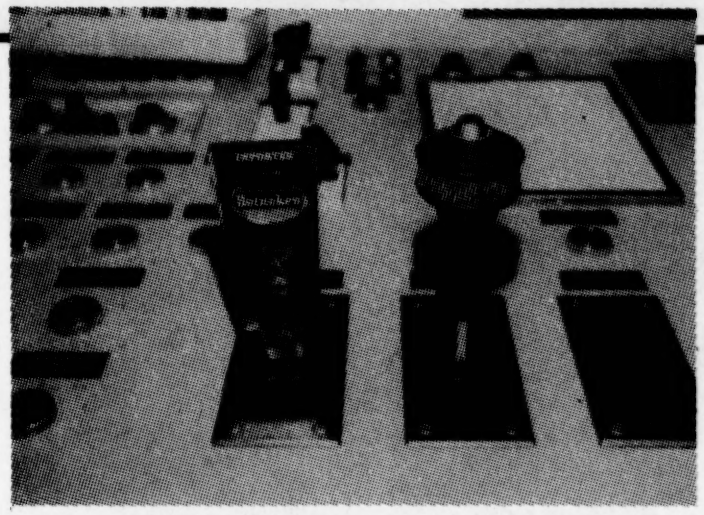
The Psychology of Everyday Things

Maddening preternatural rebellion by the hardware in your life is usually the result of bad design, which is usually the result of ignoring how people actually are. (Sometimes the phenomenon is called "poor ergonomics," but things can be wrong over a much larger scale than mere person/machine interface.) The complex matter of how people and artifacts interact is addressed here in a highly amusing manner redolent with familiar and occasionally bizarre anecdotes. Fortunately, the author isn't carried away with criticism — examples are all too easy to find — he also delivers what amounts to a freshman course on the subject of how to do things right. The book is done right too; design students should make their first read.

—J. Baldwin

The Psychology of Everyday Things
Donald A. Norman, 1988; 257 pp.
$19.95 ($21.45 postpaid) from:
Basic Books, Inc., Rt. 3/Box 20B
Hagerstown, MD 21740;
800/638-3030
(or Whole
Earth Access).





Make the Controls Look and Feel Different: **The control-room operators in a nuclear power plant tried to overcome the problem of similar-looking knobs by placing beer-keg handles over them. This is good design, even if after the fact; the operators should be rewarded.**

How Easily Can One:

Determine The Function of the Device?

Tell What Actions Are Possible?

Determine Mapping from Intention to Physical Movement?

Perform the Action?

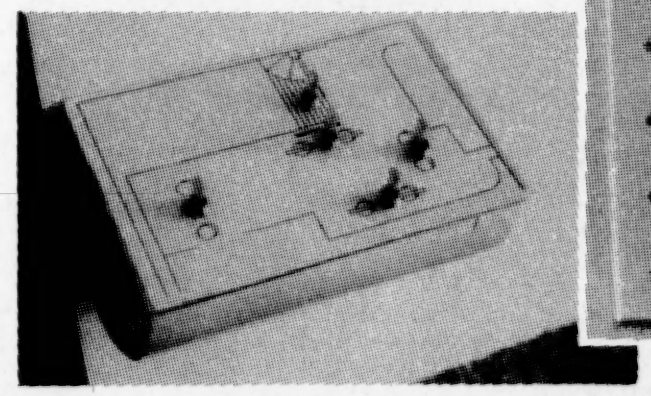
Tell if System is in Desired State?

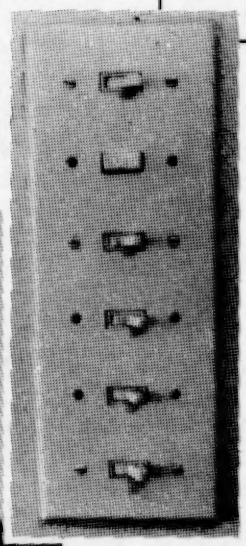
Determine Mapping from System State to Interpretation?

Tell What State the System is In?

The vertical array of six switches at the right is what our architects provided to control the lights in our odd-shaped living room. We could never remember which switch did what.

The photograph below shows our solution: switches arranged to match the room layout.





Information Anxiety

Richard Wurman cheerfully provides advice on assembling knowledge out of information. *—Kevin Kelly*

One of the great information crafters gives sound counsel on how to craft your own damn information.

—Stewart Brand

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The importance of being interested

If my premise is correct that you only remember that in which you are interested, then interest becomes a key word in assimilating information and reducing anxiety. Yet interest is cast in at best a supporting role in our lives. It is tinged with the insignificance of a hobby. A category that is disappearing from resumes is "Interests." They have become "Outside Interests." They have almost become something people are not supposed to have — distractions from your ultimate purpose or mission. We should all look closely at what the word "interest" means to us. I think *all* interests should be inside interests. We should figure our interests into our activities every day, into our reading habits, into the news to which we pay attention, into our personal relationships.

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A widely held myth, fostered by the regimen of school, is that people should learn continuously. But when do people really learn? We learn at moments rather than continuously, and it's the acceptance of moments of learning that allows you to make full use of them. If you believe you're supposed to learn continuously and you don't continuously learn, then you'll be full of anxiety and guilt. You'll be distracted from learning because you're too busy worrying about *not* learning.

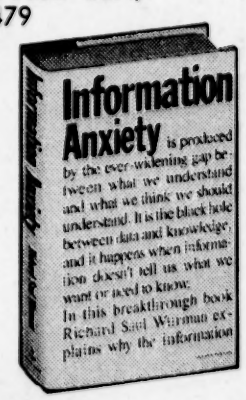
•

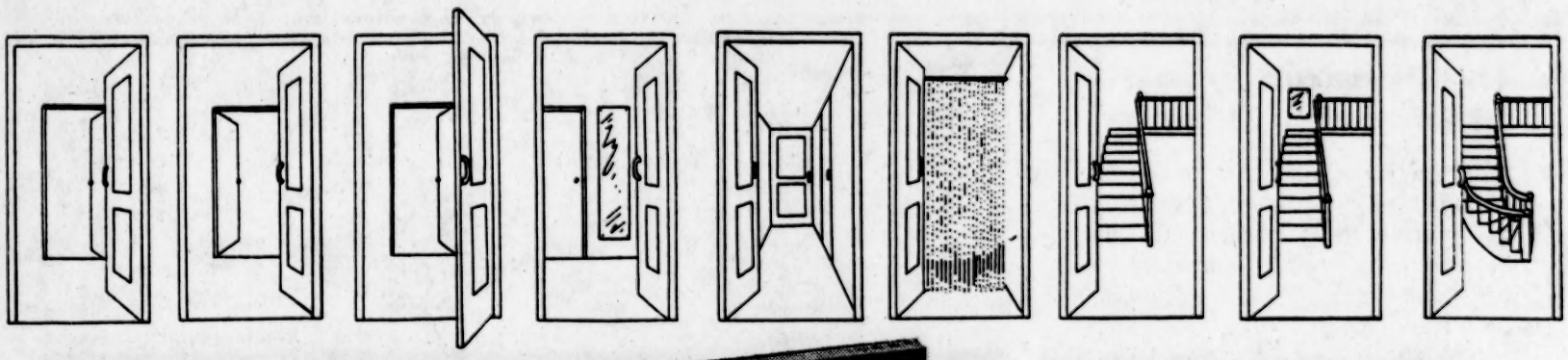
Information that is extraneous to your life will further reinforce the unsettling distance between who you are and who you think you should be.

WHAT'S IN A TYPICAL NEWSPAPER?

"Hard News" comprises only 13% of the pages whereas ads take up 60% of the typical paper.

Information Anxiety
Richard Saul Wurman, 1989; 356 pp.
$19.95 ($21.95 postpaid) from:
Doubleday/Cash Sales, P. O. Box 5071, Des Plaines, IL 60017-5071;
800/223-6834 ext. 479
(or Whole
Earth Access).





Study these various entrances, and determine which are favourable, according to Feng Shui theory. Doors should open inwards, remember, to allow beneficial *ch'i* to enter: and where there are two sets of doors, ideally they should line up, and open at the same side. If this cannot be, a mirror may provide a remedy. A direct path through the house is regarded as unfavourable, but drapes or a bead curtain will hide the rear exit. Stairs should not face the front door, but a mirror on the landing or, alternatively, curved lower steps will bring about more favourable Feng Shui by deflecting the route of the *ch'i*.

Feng Shui

Ever notice that when people prepare to sit in a chair outdoors, they usually move it a bit before sitting? We all sense "rightness" in a location, but we rarely think about it. (Remember all the talk about "place" in the ***Don Juan*** *books?) The Chinese have not only a word for it* — Feng Shui — *they have a very well-developed art and literature on the subject. Its practicioners are called* geomancers. *Even today, geomancers are called to select the site, orientation, furnishings and architectural detailing of new buildings. Westerners are skeptical. (I have seen solar greenhouses near Beijing sited to face east; the geomancer said that to face them south would place them "on the dragon's testicles." The veggies apparently didn't understand, and froze solid.) This handsome book is unlikely to assuage skepticism, but it certainly is enlightening and entertaining as it describes phenomena that have persevered thousands of years.*

—J. Baldwin

•

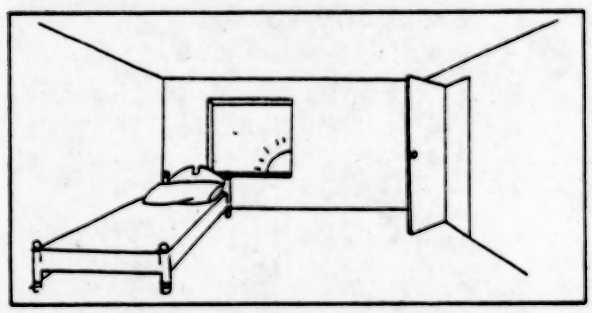
According to some *Feng Shui* authorities, in environments which involve considerable reliance on electronic devices, cables and other apparatus should be placed along the path followed by the natural *ch'i,* instead of being arranged haphazardly around the room.

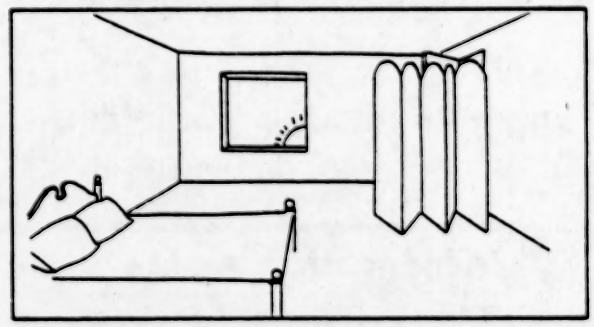
•

It is also important that the bedroom is not located over an empty but enclosed space, such as a storeroom. The *Feng Shui* explanation is that such dark and unventilated places do not permit the *ch'i* to circulate freely. Thus, a stagnant area of dead *ch'i* may be created beneath the sleeper, leading to psychological discomfiture which may ultimately develop into some form of physical illness.

In effect, this also means that bedrooms should not be built over garages. Despite the sensibility of this basic *Feng Shui* principle, many modern houses in the Western hemisphere are in notorious breach of it. Yet the inherent dangers ought to be self-evident: inflammable materials, by necessity kept in garages, pose a threat of fire, while there is a real possibility that chronic poisoning may result from the continual breathing (about three thousand hours every year) of toxic vapours seeping into the bedroom.

Feng Shui
Derek Walters, 1988; 112 pp.
$13.95 ($15.95 postpaid) from: Simon & Schuster, Inc., 200 Old Tappan Road, Old Tappan, NJ 07675; 800/223-2348 (or Whole Earth Access).





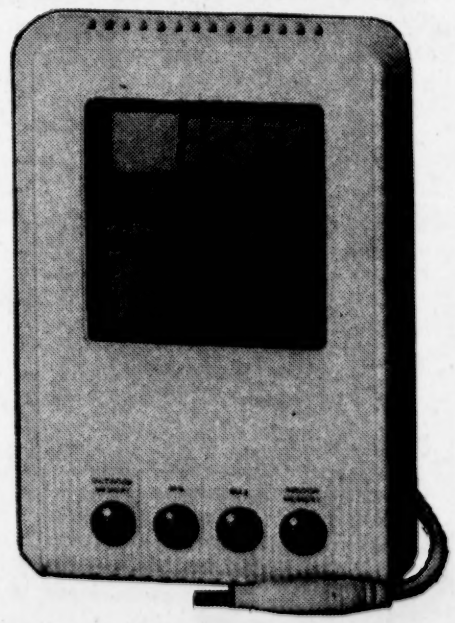
The bed should not be imediately visible from the open door. In a large room, a screen will not only preserve modesty and prevent draughts, but also channel the flow of *ch'i* to good effect.

LCD Thermometer

One of my compulsive traits is a desire to know what the temperature is. Not approximately, but exactly. *This trait has no practical value save for anticipating the first frost in time to yank out the tomato plants and save the surviving fruit for the root cellar, but that desire for the exact temperature keeps me searching for the Perfect Thermometer. It's also produced a collection of the instruments and an understanding of their basic nature — they never quite agree with each other, a further goad in searching for a better model.*

My latest discovery has no resemblance to the traditional model. The glass tube has been replaced by a thermistor (accent on the 2d syllable), a resistor whose electron flow varies with temperature and is fed into a chip and finally to a liquid-crystal display. It shows both indoor and outdoor temps in either Fahrenheit or Celsius, and, best of all, records the highs and lows for later reading. It's acutely sensitive too. Moving the sensor, a probe attached to a 10-ft. wire, up or down the wall gives one a dramatic example of how heat rises. The device could easily be used to sniff out energy leaks. It's as close as I've come yet to my perfect thermometer.

—Dick Fugett



In/Outdoor LCD Thermometer: $29.95 from local Radio Shack dealers. Catalog **free** from Radio Shack, 300 I Tandy Center, Fort Worth, TX 76102.

The Complete Painters Handbook

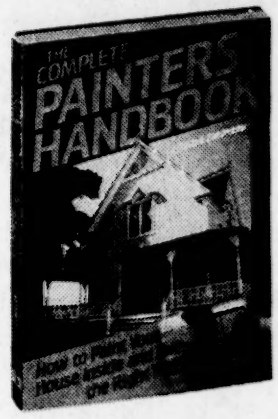
House painter, that is, inside and out. This is a real pro's experience passed on to fortunate readers. I say fortunate because this is the only book I've seen on the subject that realistically addresses such critical matters as scary ladder-work and hornets under the eaves. The author knows what you're going to encounter, because he's been painting long enough to have faced just about every conceivable situation. And of course you get his opinions on paint brands (and how to estimate quantities), brushes (and how to grip them), drop cloths — all the stuff you need to know to get a good job from yourself or a hired painter. This is by far the best painter-book around. —J. Baldwin

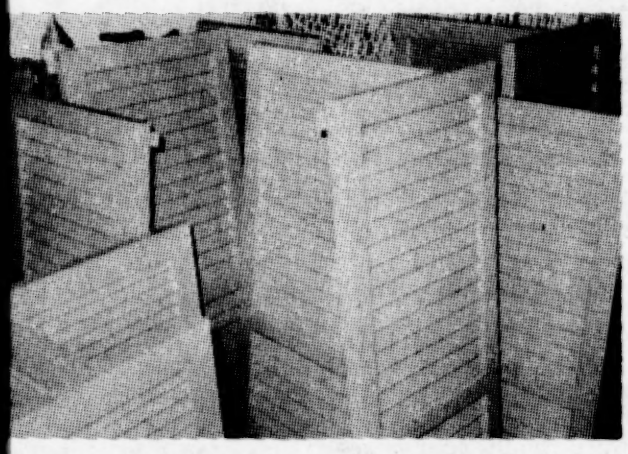
To drop the ladder, first allow it to fall sideways . . .

Keep up with the midpoint of the ladder as it falls . . .

Catch a rung with the free, upper hand.

By rolling large W's over the wall, you spread the paint more evenly.





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If you are painting shutters, you'll need one gallon of paint for every 28 shutters that will be sprayed, or every 34 shutters that will be painted by hand.

Stack wet shutters like a house of cards.

The Complete Painters Handbook
Gregg E. Sandreuter, 1988; 150 pp.
$14.95 postpaid from:
Rodale Press, 33 East Minor Street, Emmaus, PA 18049; 800/441-7761 (or Whole Earth Access).

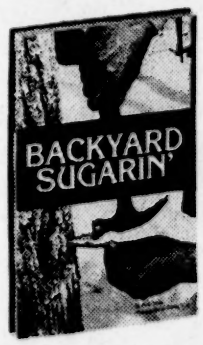
Backyard Sugarin'

In upstate New York, where I used to live, I would help out with the maple sugaring when I could. Strictly a back-yard operation, it was far from picturesque. We used plastic milk jugs to collect the sap and old baking pans to boil it down in, over an open scrap-wood fire — the no-budget orientation suggested by this how-to manual. This crude way will handle between one and eight gallons of maple syrup a season — a mere drool for a commercial operation, but enough to wet your pancakes. If you've got sugar maples in your vicinity, here's straight talk on how to suck sugar from a tree without much equipment.

—Kevin Kelly

•

Returning to the original example of wanting to end up with 5 gallons of syrup by the end of the season, and assuming now that you will fire up your evaporator for one boildown on each of five successive weekends, the mathematics says you should count on producing one gallon each weekend, for which you will need 33 gallons of sap. Therefore, you will need at least that amount of storage capacity, and it would be wise to have 50 gallons of holding capacity to accommodate heavy sap runs.



Backyard Sugarin'
Rink Mann, 1976; 78 pp.
$5.95 ($8.45 postpaid) from:
The Countryman Press, P. O. Box 175, Woodstock, VT 05091; 802/457-1049 (or Whole Earth Access).

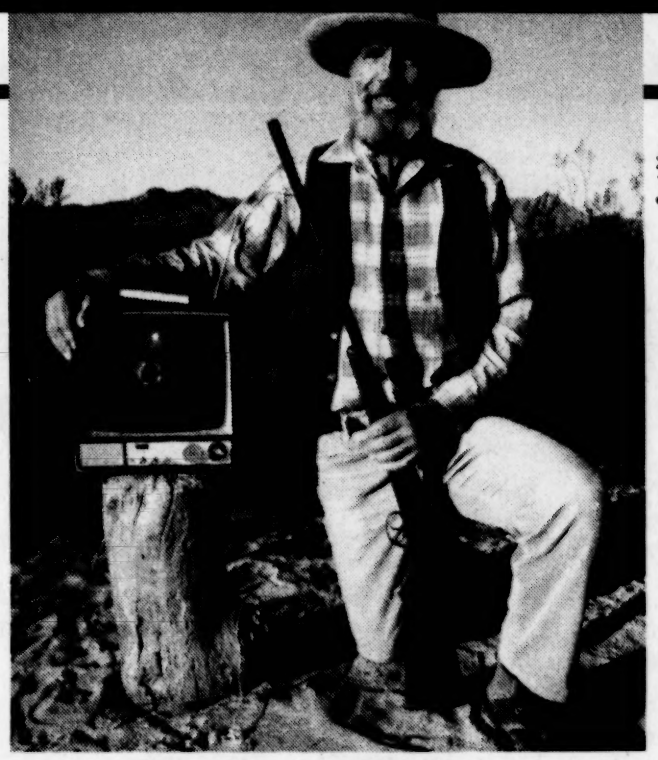
A couple of plastic or galvanized ash cans make good holding tanks for an operation of this size, if they can be spared from their normal duties. . . .

•

The way you hang a [milk-jug] sap bucket is to cut a hole with a utility knife about ¾'' square just below the collar, which is just under the bottle top, and hang the bottle with the sap spout entering this hole and the bottle set down over the back of the metal crest on the spout. Leave the cap on. The bottle will hang there nice as you please, even in a strong March breeze.

Specifications
Type: Horizontally mounted 50 gal. drum evaporator
Fuel: Owner-cut cord wood
No. buckets served: 30
Season production: 20 quarts
Smokestack: Bent 6" stovepipe
Enclosure: none
Special features: Portability and venturi stack
Owner: Tony Dow, New London, N.H.

SPADEFOOT PACKRAT HAVAHART



Suzi Moore

Eulogy for Ed Abbey
(d. March 14, 1989)

BY PETER WARSHALL

I KNEW ED mostly as a writer. I lived in the home in which he wrote *Desert Solitaire*. We never spent time together in the desert scrub — a place we're both more at home. We both loved Van Dyke's *The Desert*. We talked awkwardly — mostly about other writers. We talked about "naturalist writers" which were not his bag. He preferred the ironic imagination to taxonomic accuracy, the telling of the tale to food-web complexity. In discussing the spadefoot toad, he asked: Why do they sing? Has joy any survival value in the operation of evolution? "I suspect it does," he wrote in *Desert Solitaire*. "I suspect that the morose and fearful are doomed to quick extinction. Where there is no joy there can be no courage; and without courage all other virtues are useless." As the naturalist, I had argued that the spadefoot's courage came from its poison, from its skin. Behind an armor of warts, the spadefoot can fearlessly bleat love songs. Its "medicine" is stronger than a coyote's stomach. This was our kind of talk — in fits and starts and spaced encounters.

Ed died as I am recovering from near-death — a triple flip of a landrover in Botswana. I wanted to keep these events separate. But, in the heart, they mix. What is it that creates death or lets the body temporarily hightail death pursuit? My friends speculate about the flow of his blood going astray — about dams blocking the free-flow of rivers, about dams in the body, about the life-blood of the Earth body becoming unchanneled, and the internal bleeding of the Earth body within its skin of sky. In death or near death, in confronting it, you can't untangle your own blood from the planet's waters, our flesh from the planet's earth, the plumbing doesn't stop at the human skin. And that's what Ed wanted his readers to know. In both life and death.

The animal that I saw near death was the mole excavating a braille geometry of underworld passages in absolute darkness. When Ed died, the packrat, the lovely, Mickey Mouse-eared, deer-skinned, bright-eyed desert rat popped up. Ed's totem, the bearer of many messages of his memory. We had talked of packrats. One packrat, in particular, who lives at the highest altitude in the southwest — near the peak of Mt. Graham and Emerald Peak. This heavenly packrat will have to move or die to make room for telescopes. Ed's final public reading in Tucson was at a protest against the proposed new observatory. What's more important? This life on the planet or cold, black holes in another galaxy. The mystery of a high-altitude packrat or some melodramatic claim that hi-tech telescopes will lead to an increased understanding of man in the universe. Choose! As opposed to the philistines, he insisted you can't always have both.

We had talked of post-Pleistocene packrats whose middens, congealed by piss and time, gave him a chuckle about who or what would last longer: the techno-monuments of career-panicked academics, knee-jerk engineers, dull bureaucrats, dulled developers and even duller politicos or the acquisitive packrat stashing, for posterity, a piece of broken mirror from a new-fangled telescope. He enjoyed these kinds of thoughts.

An old friend and neighbor told me the news. I drove around Tucson, regaining confidence in motorized vehicles, mixing thoughts of walking, spadefoots, the solsticial moon, the hope of late rains, and the stench of desert rat death. The desert rat — the one I was thinking on — liked the rock house sunk into calliche and colluvial gravel. It had settled in between roof and ceiling, chewed the insulation off the swamp cooler ducts, carried mirror-like pop tops, gum wrappers and spare change into its nest, cultured a midden-full of assassin bugs that invaded the living room, bit the shit out of my back, and sent me dancing down to St. Mary's Emergency for ephedrin shots and benadryl.

Starting from love, we set Havaharts. The Havaharts were robbed by packrat geniuses. Then, humongous snap traps. One dead, but the overhead pitter-patter had reproduced into swarming steps. We added spice to the bait: raisins to the peanut butter. But, desert rats are no dummies. More assassin bugs emerged from the walls. We retreated to a mosquito net. Leaped paranoid, when reading on the couch. A neighbor said: Time for the Gopher-Go, the horrible-to-wildlife, never-use-in-lakes, strictly strychnine, all-machine-made poison.

You can't remove the dead, deep in the void between roof and ceiling. You can try snaking for them with an industrial vacuum hose, maybe even suck up an assassin bug, but it's best to just wait the three days, until the carcass dries, and contemplate the stench. What's the meaning of the desert rat stench? What drives a lover of desert rats to poison? Where did the negotiations between nature and culture collapse? Are we de-vo packrats? baiting ourselves with sweets? ultimately poisoning ourselves. How much of the thorny, hardassed desert will we allow among the ranchettes?

Ed, the southwest's great arid rodential philosopher, had no use for diplomacy. Ed hated it — the fetid odor and language of it. Over the past quarter century, human Desert Rats have covered their melancholia, their bitter angers in diplomatic sombreros. The human Desert Scalpers have sugar-coated their greed with bolo-tie diplomacy. California tried transforming diplomacy's stench into perfume — thank you, thank you for sharing your experience. But the Colorado's circulatory system has been blown. The river's blood covers the land of Abbey's novels. Pitted against imported, SoCal lust for land and money, diplomacy and Ed could find no safe home, no easy mid. Better to birdshoot sacred cows. Local sacred cows like Mo Udall and his deliberate diplomatic congressional destruction of the Sonoran desert. Better to stir up the citizenry — the contented cattlemen, the baby-boomer Mexican, the sober environ-

mental lawyer who believes laws were meant for everyone.

His audience, his followers, frankly all of us, needed him. Earth First! increasingly became his material, his narrative voice and the recipient of some of his royalties. In urban apartments, broken adobes, and Northface tents, the rat-feet sing "No compromise in the name of Mother Earth" and "We live to fight another day." His brash voice cut through the foul breath of double-speak. His novels slid down the slickrock to allegory. Not the dreadful serious, pious *Pilgrim's Progress*, but a slightly mean, all-too-accurate, fuck-here's-what-I-think allegory in *The Fool's Progress*. He exorcised bile by laughter. 'Midst 'whelming stench, his prose, the irritating pitter-patter of the desert rats. Please, please sit down on this cactus, won't you.

Trail-clearers, hunters, fire fighters, eco-radicals, animal lovers, river-runners, frustrated hikers, wildlife bureaucrats (with an Ed Abbey book in an Ammo Box, pack sack or closed desk drawer) sniff with the Abbey outdoor nose. Ah, the stench of destruction in the chaparral. Ed was no misanthrope. He just preferred outdoor employees trying to heal government piece-meal whittling of wilderness and workers with both feet in awesome landscapes. A nature prejudice. He liked questionably illegal, mock heroic, theatrical, moral, seriously funny lessons and bleating confirmations from the spadefoots:

> 'Do not burn yourself out. Be as I am — a reluctant enthusiast, a parttime crusader, a halfhearted fanatic. Save the other half of yourself for pleasure and adventure. It is not enough to fight for the West. It is even more important to enjoy it. While you can. While it's still there. So get out there and hunt and fish and mess around with your friends, explore the forests, encounter the griz, climb the mountains, run the rivers. Sit quietly for a while and contemplate the precious stillness, the loverly mysterious awesome space."

(An Ed Abbey quote that hangs in the office of Kathleen Milne, staff biologist, Safford District, U.S. Forest Service.) ■

PORTABLE IRRIGATION FOR SEEDLINGS

"Drought tolerant, once established" is a phrase that applies to many native plants and trees. The trick, of course, is to get them established. Gregory and Brenda McMillan of Ojai, California, have come up with a portable irrigation system they are using to grow oaks. In 1985 a large fire blackened the mountains above the town, and attempts at reforestation have since spread into Ojai itself. "We plant around our neighborhood," says Gregory, "in vacant lots, at bus stops, along trails, wherever. To cope with the problem of watering the seedlings, we adapted our garden's drip irrigation system. We found that we could easily force the point of a drip emitter through the side of a plastic gallon jug. Then, presto! we had a portable drip irrigator that metered out a gallon of water in about eight hours. This allows the water to really penetrate rather than run off.

"Two at a time, Brenda loads the gallon jugs in the panniers of her bike and takes them out to the seedlings in the evening. In the morning, she picks up the empties. Watering the seedlings every two weeks or so seems to be adequate. If it is windy, we tie rocks to the jugs to keep them from blowing away when empty. We also have to hoe the weeds around the seedlings so they don't get trampled or cut down by a mower. Maybe once again Ojai will become a valley of oaks and our trails and canyons will be beautiful with oak trees."

Gregory buys the emitters from a nursery for about a dime apiece and uses ones with tiny on/off twist valves that put out one gallon per hour when hooked up to a pressurized water system. With just the head in a gallon jug, they emit a gallon in eight hours. There are many brands of emitters, and they come in many flow rates. Since this is putting the emitters to a use they weren't designed for, some experimenting may be necessary. —Richard Nilsen

One-gallon milk jug irrigator with drip emitter.

A teaspoon of polymer granules, added to 8 ounces of water, swells to large mass at right.

Broadleaf P4 Soil Polymer

A soil polymer acts like a water reservoir for plant roots. Mixed into the soil before planting, or added after the fact by judicious placement down holes punched around the roots, polymers are used on everything from potted plants to installed sod lawns. They are excellent for providing moisture to rooting cuttings.

Dry, a polymer looks like rock salt; wet, it becomes a gelatinous goo. Plant roots grow right through the stuff, which can absorb up to 400 times its weight in water, and give 95 percent of it back to the roots. This makes for some impressive expansion and contraction, which aerates the soil, and also lets water percolate through the soil surface more easily.

A brand commercially available — Broadleaf P4 — is made from polyacrylamide. It is supposed to be non-toxic, last at least five years, and eventually biodegrade. This chemical sponge will also hold water-soluble fertilizers, won't concentrate salts, and prevents leaching. All of this translates into irrigating half as often.

Tom Bressan, of the Urban Farmer Store in San Francisco, sells the product and has developed the following rules of thumb: one ounce of polymer will absorb about one gallon of water, and one ounce of polymer gets mixed into every three gallons (or 1/2 cubic foot) of potting soil. A coarser grade is used for planting shrubs and trees.

—Richard Nilsen

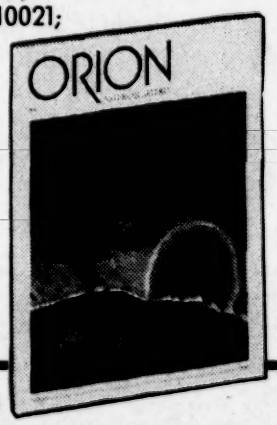
Broadleaf P4 Soil Polymer: 5-oz. tub **$11** postpaid from The Urban Farmer Store, 2833 Vicente Street, San Francisco, CA 94116; 800/666-3747.

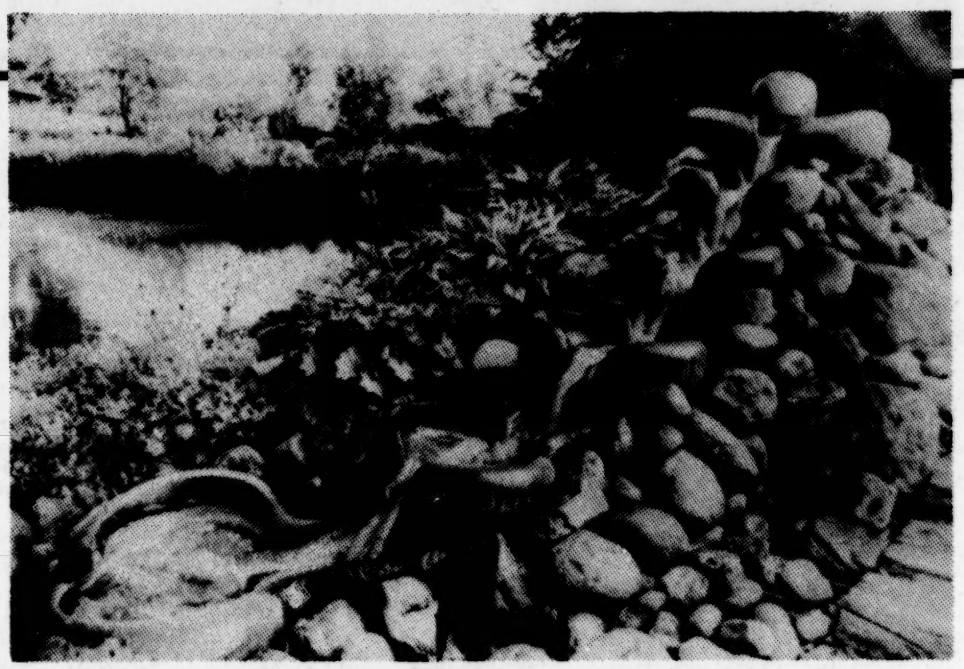
Orion

*How about a quarterly nature magazine that features as many pictures of people as of birds or trees? **Orion** sees humans as part of the natural environment, and I find it a more believable nature magazine because of that. This full-color glossy has no political constituency to please (both **Audubon** and **Sierra** are straitjacketed by membership dogma), but simply raises interesting, intelligent topics, one per issue — such as "Architecture in relation to nature," "Sustainable agriculture," "Forms and patterns," or "Migrations." Every issue is a refreshing enlargement of what "nature" means. —Kevin Kelly*

[Suggested by James Jackson]

Orion Nature Quarterly
George K. Russell, Editor
$14/year (4 issues) from:
The Myrin Institute, Inc.,
136 E. 64th Street,
New York, NY 10021;
212/758-6475.





The "Akalla" Flowform in Jarna, Sweden, is used for wastewater treatment and for irrigation.

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We use 11 gallons of water to make a gallon of beer, compared to 7 gallons in Europe. A fast-food order of hamburger, fries, and coke consumes over 1,500 gallons. A Thanksgiving dinner, with the trimmings, demands 42,674 gallons of water, or the same as a thirty-by-fifty-foot swimming pool. This is 2 gallons a calorie. We will one day have to set aside 300 gallons to choose between one Sunday paper and the grain for one loaf of bread.

•

Killing is a little-investigated expression of the impulse to have. Thoreau knew about it. He said he would never trust a pacifist who had not evolved through his urge to hunt.

•

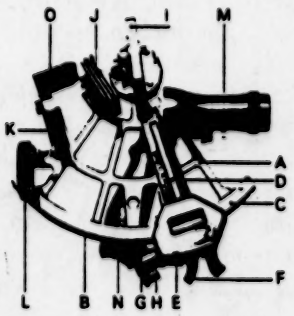
In all my encounters with wild animals, nothing has affected me quite as profoundly as gazing into an alligator's eyes. There is no hint of recognition or kinship or even curiosity. The alligator goes back so far in time that there are few points of reference between it and human beings. A gulf exists between the two that no act of sympathetic imagination can possibly breach.

Celestaire

Navigation is still one of the basic skills of the true wanderer. There is discipline involved, and penalties for lack of it. There are instruments that must be mastered. Here's a selection of the instruments (traditional and electronic) and associated instruction. There's a kind of immanence to it all that you may find, as I do, strangely thrilling.

—J. Baldwin

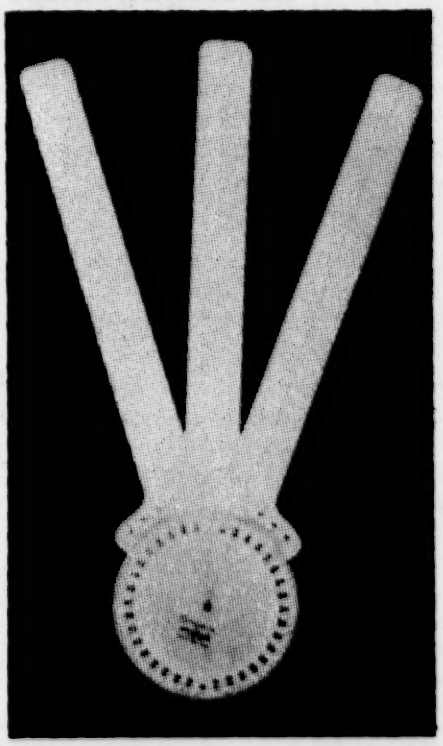
Celestaire
Catalog
$1 from:
Celestaire, 416 S. Pershing,
Wichita, KS 67218; 316/686-9785



SEXTANT COMPONENTS
A)Frame
B)Limb
C)Arc
D)Index Arm
E)Tangent Screw
F)Release
G)Micrometer Drum
H)Vernier
I)Index Mirror
J)Shade Glasses for Index Mirror
K)Horizon Glass/Mirror
L)Shade Glasses for Horizon Glass
M)Telescope
N)Handle
O)Light Breaker
(Protector for Leaking Light)

Translucent for chart work, this device is easy to set and operate. To find his position, the ship's navigator selects three easily recognizable land features on his chart. The navigator measures, with his sextant or pelorus, the angle between the middle feature and the one on the right. Next he measures the angle between the middle feature and the one on the left. Then he sets the two measured angles on the left and right arms of his protractor, using the center arm as the zero or middle feature. He then lays his protractor on the chart with the lines of the arms running through the selected features. The center of the protractor is now at the position of the ship, and may be marked through the center hole of the protractor. Arm length: 15" (181 mm).

3-ARM PROTRACTOR



Toxics Inventory

In October 1986, right after the industrial chemical disaster in Bhopal, India, the U.S. Congress passed the Emergency Planning and Community Right-to-Know Act. It has gotten little publicity, but this law is a major breakthrough in environmental and human protection, and in government/business/citizen cooperation.

Since last July, manufacturers have had to report routine releases of a wide variety of chemicals to the Environmental Protection Agency — the amount, location, type, health risks, etc. Stores of hazardous or toxic chemicals must also be reported. The EPA is required to make this information available to anyone through an online computer system and "other means."

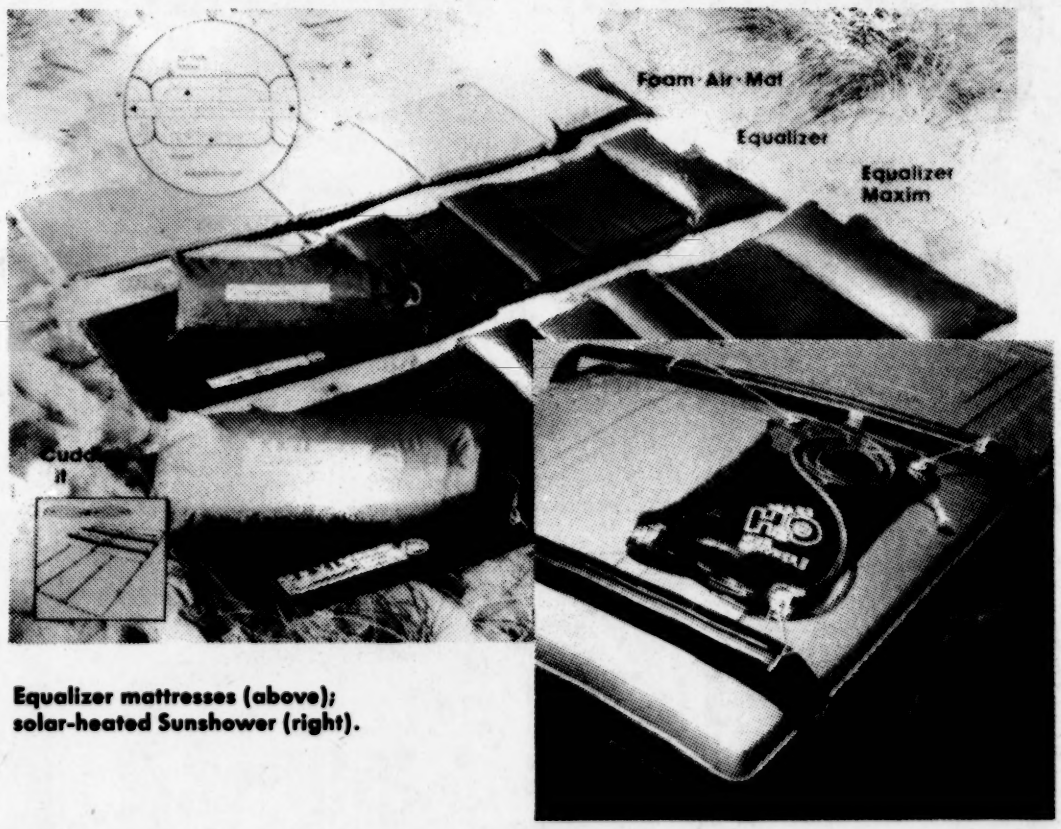
Basic Designs

Charles Hall hasn't been idle since he designed and patented the first waterbed in the sixties. In fact, you probably know one of his later designs — the Sunshower — a waterbag (tiny waterbed) that heats its contents by solar means. They work fine and now come in five sizes ranging from individual quick-rinse to family deluge. A solar-powered pressurizing pump is optional. May I also sing the praise of what must be the most comfortable camping mattress yet devised, the Equalizer Maxim. Unlike its competitor Thermarest, this pad is divided into individually adjustable cross compartments that'll float your pointy hipbones and shoulder corners safely above such potential sleep-destroyers as stream-bed pebbles. Not only that, the compartments are ingeniously connected by internal hoses that shift the air back and forth to keep you comfy as you roll around. The Maxim model is a tad heavy for backpacking (it's great for car or boat camping) but there are lighter and no less cosseting models for the trail users. Self-inflating, too, though as with all self-inflators, DEflating can be a bit of a chore. At least that doesn't require the lung power of an Olympic marathoner. There are other Basic Design products too, all nicely made of good stuff. —*J. Baldwin*

Basic Designs

Catalog **free**;
Sunshowers **$8.95-$29.95**;
Equalizers **$35.95-$79.95**

All from Basic Designs, Inc., 5815 Bennett Valley Road, Santa Rosa, CA 95404; 707/575-1220.



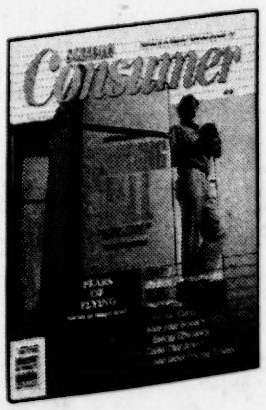
Equalizer mattresses (above); solar-heated Sunshower (right).

Canadian Consumer

It's very much like our ***Consumer Reports****, though with more commentary and rather less rigorous testing. And, of course, the products tested are Canadian or their versions of the U.S. product. A good source of consumer info for Canadians, and an interesting look for the rest of us at some of the subtleties of product and market north of our border.* —*J. Baldwin*

•

To find out if the new-fangled clinical thermometers are as accurate as the old reliables, CAC pitted 10 digital thermometers and three brands of fever strips against five oral mercury-in-glass thermometers. Prices ranged from $2.60 (for the *B-D 504* mercury) to $22 for the most expensive digital, the *Terumo*. We found that the digital and glass models were equally accurate, but the digital thermometers were easier to use. A parent's hand against the forehead would give about as good a reading as the fever strips, though, and would be a lot more comforting.

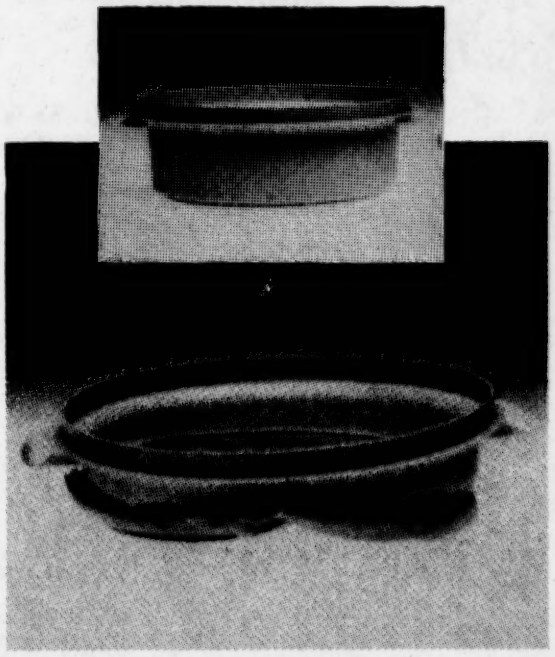


Canadian Consumer

Paul Reynolds, Editor

$33/year U.S.;
$25 Canadian (12 issues) from: Canadian Consumer, Box 9300, Ottawa, Ontario K1G 3T9, Canada; 613/723-0187

The ill-fated *Superseal* both before and after our heat-resistance test.



"The creation of the [Toxic Release Inventory] database signals the birth of a new information age for government and citizens alike," says OMB Watch, one of the organizations that have joined together to form the Working Group on Community Right-to-Know. "No longer limited to paper records in steel file cabinets, government information can now be accessed in virtually unlimited ways."

Not all the details have been worked out yet about the cost or manner of access, but the EPA has already produced a free pamphlet titled "Chemicals in Your Community: A Guide to the Federal Emergency Planning and Community Right-to-Know Act." This can be ordered by calling the Agency's toll-free hotline: 800/535-0202.

A variety of information packets designed to help citizens make maximum use of the new law is available from the Working Group on Community Right-to-Know, 218 D Street SE, Washington, DC 20003; 202/544-2600.

A traveling "Toxics Road Show" and a Right-to-Know Computer Network have been created to educate local groups about the new law. The road show can visit your community if you contact the project director, Barry Lampke, at OMB Watch, 2001 O Street NW, Washington, DC 20036; 202/659-1711. He can also introduce you to the RTK Network.

—Robert Horvitz

Industrial Supply Catalogs

Boy, I love this stuff. It's everything fashionable designer gear isn't. It's ugly and heavy-duty, imbued with a factory-strength, no-nonsense reality. When I was a kid I thought the coolest grownups at school were the janitors — their tools and devices were a million years old and built for another million. They and their world had an air of immortality. I suppose they shopped for this kind of permanence in catalogs like these.

—Kevin Kelly

[Suggested by Aryt Alasti]

ARROW STAR: General industrial supply house. Wide selection of warehouse and small-factory items: sturdy benches, forklifts and the like. Primarily hefty steel and iron furnishings.

Catalog **free** from 655 William Street, Lynbrook, NY 11563; 800/645-2982.

C&H: General storage and material handling equipment, with some products for institutions such as safety equipment, desks, trash bins, and so on.

Catalog **free** from C&H Distributors, 400 South 5th Street/P. O. Box 04499, Milwaukee, WI 53204; 800/558-9966.

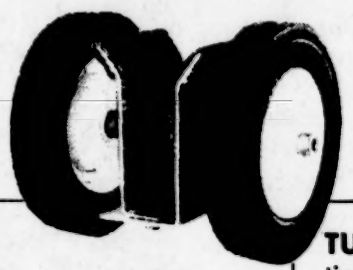
ADJUSTABLE "U" FRAME DOLLY

Moves Cumbersome Items Easily... and Safely!

The perfect dolly to transport odd-sized material like panels, partitions, counter tops, glass sheets, and many others. No tie-up of costly manpower with this one-man work-horse. Adjustable 3/16" sturdy steel frame, carpeted to protect valuable merchandise. Easy-rolling 8" diameter rubber tired wheels.

300 Lb. Capacity

Stock No.	Width"	Price
MB5100	1 to 2½	$68.25
MB5102	1¾ to 3½	68.25
MB5104	2½ to 4½	68.25
MB5106	4½ to 9½	75.25



WESCO Drum Transporter

Makes Moving Heavy Drums Easy!

650 lb. capacity transporter makes vertical drum handling easy, safe and simple. By a patented design, it simply lifts the drum by the chime. Handles closed and open head 55 gal. steel drums in vertical position. Simply roll to drum and lift. No saddles to secure. Little effort to lift. 5" polyolefin wheels and 3" casters for easy moving. Frame is 2" dia. steel tubing. 39½"H x 30"Wx 29"D. Shpg. wt. 45 lbs. FOB PA.

74-169D—List $267.10. Net each $179.00

Safety Special

Only $129.75

HAUL-ALL UTILITY TRUCK

Collects... Transports... Dumps

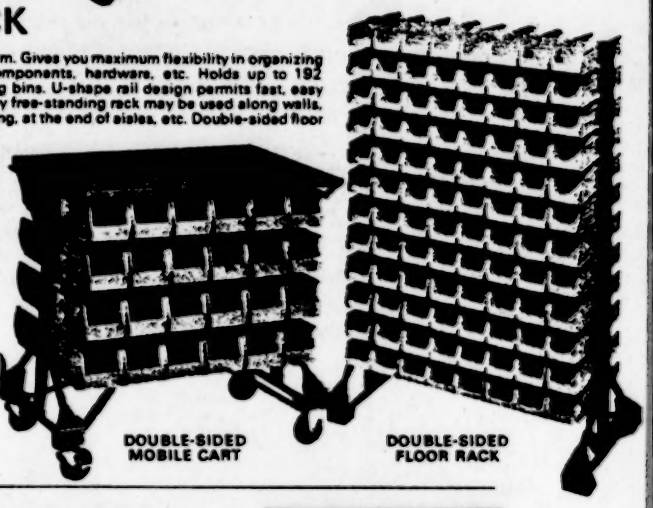
1000 Lb. Capacity

$186.50 LOW AS

BIN RACK

Ideal bin storage system. Gives you maximum flexibility in organizing and moving parts, components, hardware, etc. Holds up to 192 polypropylene hanging bins. U-shape rail design permits fast, easy bin removal. Stationery free-standing rack may be used along walls, behind existing shelving, at the end of aisles, etc. Double-sided floor rack gives additional storage capability. Double-sided mobile carts let you transport parts between work areas. Gray enamel rack with Yellow bins shipped unless Red or Blue bins specified. Shipped K.D., assembles quickly.

$162.20 LOW AS



DOUBLE-SIDED MOBILE CART

DOUBLE-SIDED FLOOR RACK

TURNKEY: Similar overlapping selection with a slight emphasis on smaller factory settings. Lots of "picking" bins, metal lumber, and the ubiquitous hand dollies in many varieties.

Catalog **free** from Turnkey Material Handling Inc., 500 Fillmore Avenue/ P. O. Box 1050, Tonawanda, NY 14151; 800/828-7540.

24 HOUR DIAL

Ideal for computer rooms, military installations and anyplace where military time is essential.

C10L-Q Quartz Black-10" $32.54
C10B-Q Quartz Brown-10" 32.54
C14L-Q Quartz Black-14" 35.34
C14B-Q Quartz Brown-14" 35.34

as low as $53.65

Legs adjust in 1" increments.

- Grey laminated plastic top resists mars, burns and stains. 1¼" thick. Ideal for electronics, schools, government facilities, industrial plants, hospitals.
- Compressed wood top, 1" thick, recommended for assembly, manufacturing and maintenance work.
- All models have adjustable legs, 28" to 33" high.

Kee Klamps for Instant Construction

Simple! Low cost! Unlimited applications! All you need is an Allen wrench to assemble any Kee-Klamp structure. No threading, welding, drilling or bolting! Pre-cut pipe slips into Kee-Klamp sockets . . . locks securely with set screws to offer heavy direct load capacity. Kee-Klamps are strong galvanized malleable iron "slip-on" fittings made for standard pipe from ½" to 2". **IN STOCK—FOB GA, NJ, NV, TX, WI.**

HEAVY DUTY DOLLIES

Move 12,000 lbs. Over Smooth or Rough Surfaces

- Swivel top for easy mobility.
- Can be bolted to machinery.
- All-steel frame, axle and wheels for long life and trouble-free use.
- Only 3 moving parts. No small parts to break, wear-out or clog.

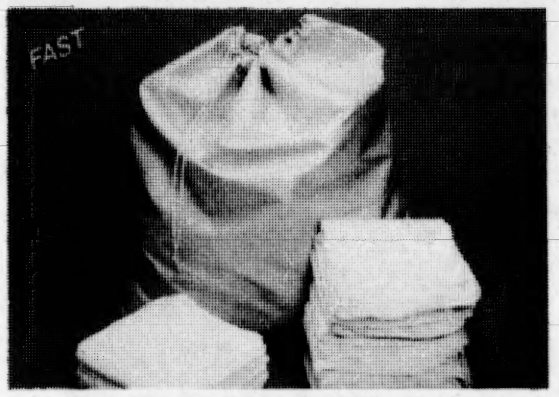
- One man can safely handle all but the biggest jobs.
- 12,000 lb. capacity per set of 4, 3000 lb. capacity each.
- Optional steering handle available.

6¼"W x 7½"L

MM-408	Set of 4	Wgt. 72 lb.	$488.16 set
MM-409	Single Dolly	Wgt. 18 lb.	127.63 ea.
MM-410	Steering Handle	Wgt. 5 lb.	47.37 ea.

BROWNCOR: Specializes in industrial shipping and packaging supplies. More front-office storage devices — literature racks, carton staplers — and ingredients like bubble-packing by the roll.

Catalog **free** from BrownCor International, 14101 N.W. 4th Street, Sunrise, FL 33325; 800/327-2278.



DURA-WHITE GIANT™ SHOP TOWELS IN-A-BAG

MODEL NO.	SHPG. WT.	PRICE EACH BAG 1-2	PRICE EACH BAG 3+
48 TOWELS (¼ Bag)			
A06-1052	4 lbs.	$ 34	$ 29

1. ANCHOR THE FILM TO YOUR PACKAGES.

2. SQUEEZE THE HAND GRIPS TO APPLY BRAKE TENSION AS YOU STRETCH WRAP THE LOAD.

3. CUT THE FILM AND PRESS THE END TO MAKE IT CLING.

MODEL NO. A04-1340

PRICE EACH 1-2	3-5	6+
$25.90	$23.40	$21.70

EASILY ATTACHES TO WORK SURFACE
Heavy duty steel construction for durability
- Secures to bench with sturdy clamp
- Easy to change from one roll to another
- Designed for both 2" wide tape and two rolls of 1" tape with the split wheel feature

BENCH MOUNT TAPE DISPENSER

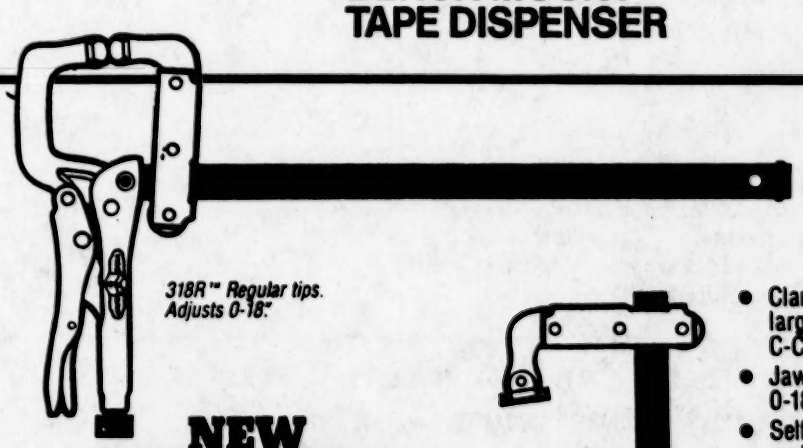
Seven Corners Ace Hardware, Inc.

To the tool-user, there are few things that match the satisfaction of a big, fat, well-stocked, discount hardware catalog. You have to be made of stern stuff not to place an order from this one. I hear their service is good.

—J. Baldwin

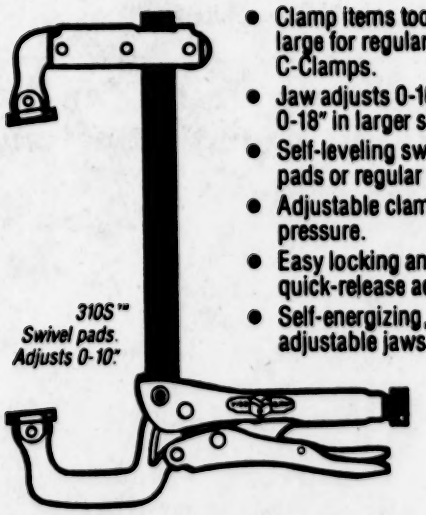
Tools On Sale

Catalog **free** from:
Seven Corners Ace Hardware Inc.,
216 West 76th Street, St. Paul, MN
55102; 800/328-0457.

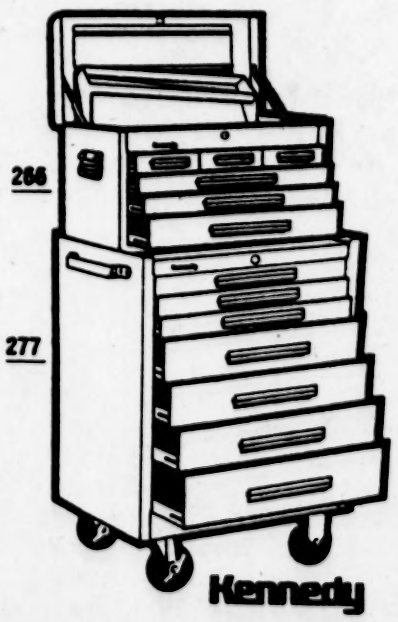


NEW VISE-GRIP® LOCKING BAR CLAMPS.

R — REGULAR TIP
S — SWIVEL TIP
310S — LIST 25.20 — SALE 18.95
310R — LIST 23.80 — SALE 17.90
318S — LIST 27.30 — SALE 20.50
318R — LIST 25.90 — SALE 19.50



- Clamp items too large for regular C-Clamps.
- Jaw adjusts 0-10", 0-18" in larger size.
- Self-leveling swivel pads or regular tips.
- Adjustable clamping pressure.
- Easy locking and quick-release action.
- Self-energizing, adjustable jaws.



BOTH FOR ***475.00***

Mechanic's Chest & Roller Cabinet

6-Drawer Chest
- Has lift-out tray with socket set divider.
- Includes 2 drawer dividers.
- 26⅛ W x 12 1/16 D x 14¾" H.
- #266 ..... *LIST 241.30 — SALE 180.95*

7-Drawer Cabinet
- Comes with side handle, four 5" casters and 4 drawer dividers.
- 27 W x 18 D x 35¼" H.
- #277 ..... *LIST 438.30 — SALE 328.75*

476 Remington® Powerhammer™ Fastening Tool With Storage Case

A quality fastening tool designed for the do-it-yourselfer. Uses power fasteners and power loads to quickly fasten wood and other materials into concrete, steel and masonry. Ideal for finishing basements, putting up decking and many other home projects. Comes with storage case. U.L. listed.

Item 75707

LIST 35.00 — SALE 26.00

The Macintosh Bible

All the neat shortcuts and sanity-retaining tips that are easily done on the Macintosh, which really do save time, and which no one ever tells you about. Get the huge second edition. It covers basic Mac lore and most common Mac software. This is the book I'm handing out to Macintosh newcomers. —Kevin Kelly

The Macintosh Bible
(2nd Edition)
Dale Coleman and Arthur Naiman, 1987; 759 pp.
$28* ($31 postpaid) from: Goldstein & Blair, P. O. Box 7635, Berkeley, CA 94707; 415/524-4000 (or Whole Earth Access).
* Price includes two updates.

custom letterhead *(AN)*

There are no particular tricks for creating a letterhead—although creating a nice one requires a great deal of skill and taste. But here's a trick on how to deal with one once it's been created:

Assuming you have access to the Mac and a laser printer on a regular basis, don't waste your time printing out blank sheets of letterhead that you'll then have to feed one by one into the printer when you want to use them. Instead, create a dummy letterhead document with your letterhead at the top and a few words in the font you use for letters below it. Here's a sample, using Fluent Fonts' Monterey and Monterey Medium, from CasadyWare:

very hot tip

JACK TWILLER
512 PET-DE-LOUP BOULEVARD
HALITOSIS ND 58353
701/ 555-1941

Month 00, 1989

Dear

Save this document as *letterhead* or some similar name. Then every time you want to write a letter, open it and immediately *Save As...* under whatever name is appropriate for the letter you're going write.

•

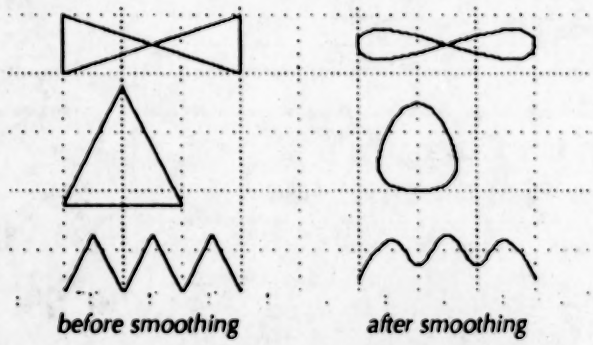
Moving inactive windows
It can be annoying to always have to select a window before moving it. To move a window that's not active (not selected), just hold down the ⌘ key while dragging it.

•

If you share your hard disk (and probably even it you don't), you need a wrong-place box — a folder called *need to be put away, left in the wrong place* or the like. You just pop things in there when they're in the way and then periodically, when you don't have anything more pressing to do, you open that folder and figure out where all the stuff in it really belongs.

using smoothing to draw curves *(DC)*

When you use MacDraw's freehand shape tool (the second from the bottom on the palette) to draw curves, you may not be very happy with the results. Instead, try drawing an angular approximation of the desired image with MacDraw's polygon tool (the last one on the palette) and then use the Edit menu's *Smooth* command to curve the edges.



before smoothing *after smoothing*

Tips and Techniques for Using Low-Cost and Public Domain Software

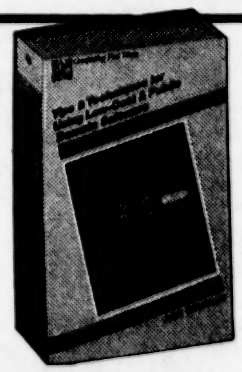
This book, much more useful to MS-DOS computer owners than its title implies, should come free with every IBM clone. It's less an introductory orientation to software than a guide to taming that unruly but inexpensive beast, the MS-DOS computer. Now you can turn it into a tractable workhorse, meld it to your sensibility, make it sing to your tune. The book covers virus protection, RAMdisks, extended batch languages, hard-disk backups, windows, memory management, mice, and multitasking (which personally improves my computer glee by a factor of four). Buy this as a reference, for constant referral as you get used to your computer; it could substitute for dozens of hours' worth of nerdly conversations. And I suspect it will make John Gliedman's reputation as a computer writer.
—Art Kleiner

•

Even the fastest word processor is hobbled by the sluggish rate at which DOS ordinarily translates a key press into a command to move the cursor by a letter, word, line, or sentence. You can cure this problem and breath new life into your word processor, not to mention a desktop publishing program like *Xerox Ventura Publisher*, with a free program called *KBFIX2*. A single ten minute session with *SpinRite*, a superb low-cost preventive maintenance program, can often improve hard disk performance by 50 percent or more. The cache program *Super PC-Kwik Disk Accelerator* not only speeds up most applications programs but it also reduces the time required to copy files or save data to a disk. Inexpensive archive (file compression) programs like *PKARC* can virtually double the amount of text and data that you can store on a disk.

•

Even if you turn livid at the prospect of diving into your computer's central nervous system and performing a brain graft, you may be pleasantly surprised by how easy it is to modernize your old Epson or IBM Graphics printer. All it takes is replacing a few chips on your printer's mother board with the $79.95 Dots-Perfect ROM chip from Dresselhaus Computer Products. . . .



Tips and Techniques for Using Low-Cost and Public Domain Software
John Gliedman, 1988; 387 pp.
$24.95 postpaid from: McGraw-Hill Book Co., P. O. Box 400, Hightstown, NJ 08520; 800/262-4729 (or Whole Earth Access).

The Dots-Perfect ROM provides, in addition to all your printer's old functions, the following new ones: a near-letter-quality mode (at about half the speed of draft mode); all Epson Graftrax Plus features, even if your printer lacked them before the upgrade; and the entire IBM extended character set (double-line graphics characters are printed as double-line characters).

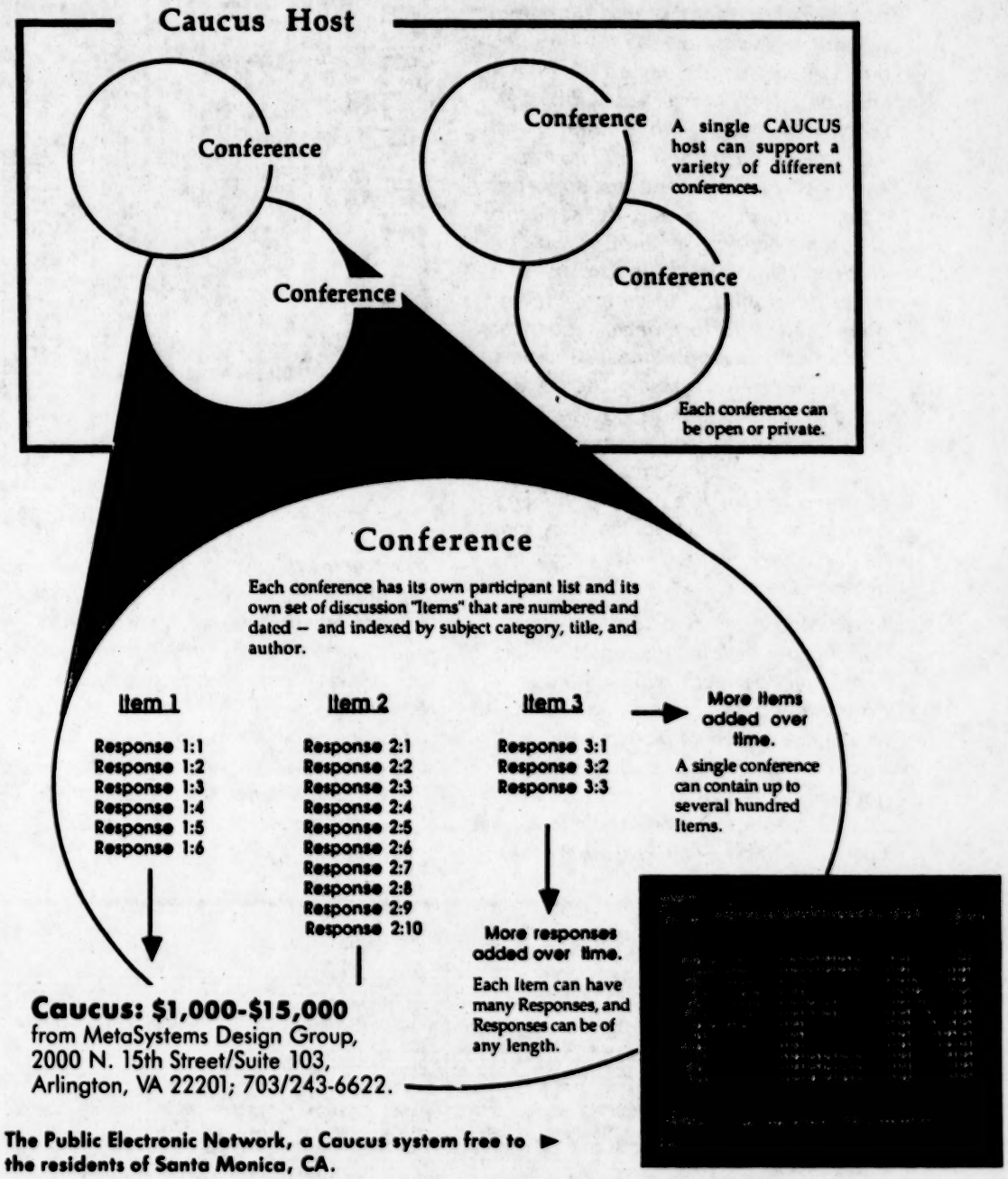
Caucus

The most accessible leap yet into starting your own computer-based conferencing system. For $5,000 you can buy all the computers, software, and modems you need for four people to call in and use it at once — a price that includes an IBM AT clone, SCO Xenix (the "operating system"), and this program. Caucus runs on a dozen different types and sizes of computers; if your finances rise, you can graduate to a $25,000 workstation or mini-mainframe setup that lets ten people use it at once. You can move your conferences, without losing a word, directly into the new computer.

The structure and commands are similar to those of the WELL — within a conference you can enter "items," or add to a chain of "responses" to each item — but it's much more tailor-able than the WELL. You can compose your own dictionaries of prompts so that users can view your metaphorical meeting ground in its regular version ("And Now?"), surly computerese ("Yeah?"), French ("Et bien?"), or any other language.

I should point out that the purveyors of Caucus — MetaSystems Design Group — are friends of mine, but so are most computer conferencing software purveyors. Where I teach, at New York University, we chose Caucus for a burgeoning conference system, and we have not been disappointed. Already, the new connections between formerly isolated departments are beginning to change the school, for the better. Other institutions are adopting it too; most recently, the city of Santa Monica, California, is reshaping some of its city government around a public-access Caucus system. —*Art Kleiner*

The Structure of Caucus™



Caucus: $1,000-$15,000
from MetaSystems Design Group,
2000 N. 15th Street/Suite 103,
Arlington, VA 22201; 703/243-6622.

The Public Electronic Network, a Caucus system free to the residents of Santa Monica, CA. ►

Paradox 2

Lou Farina, a friend of a friend, is burly and streetwise, owns a gas station in Astoria, New York, and has a half-dozen mechanics working for him. In other words, he's not a man you'd want to cross. He needed a database built on his IBM compatible — a simple job, to keep track of his customers and invoices. Could I handle it? Sure, I said blithely, how hard could it be to figure out? Only after I took his money did I see what I'd gotten myself into.

Using Paradox 2 saved me from having to leave town. Like its competitors — dBase III, RBase, Oracle — it's a tool for making your own databases and customizing menus and procedures for guiding people effectively and unambiguously through the facts in those databases. Paradox is generally considered — most recently by ***Personal Computing*** *— as the most welcoming of its peers without sacrificing depth.*

One savvy programmer on CompuServe said that he could put together something in 50 hours that would take 200 in, say, dBase. I believe him.

As with HyperCard, using Paradox means starting with simple skills — displaying some facts — and gradually being suckered into full-fledged programming. HyperCard, however, doesn't have the data management capabilities — sorting, sifting, and shuffling hundreds of similar items — that a gas station, for instance, needs in its invoice system.

By now, my database for Lou includes pop-up menus with the names of his mechanics, automatic tax calculation, and an ability to tell instantly, when he enters a licence plate number, whether it belongs to a new customer or someone he's serviced before. Though I had to cross a psychological threshold to create these features — in which I forced myself to learn such esoterica as functions and procedures — I still maintain I'm not a programmer, per se; I'm an information artisan.

To learn Paradox effectively, I recommend an account on CompuServe, where the publisher, Borland, maintains a Forum (and many skilled Paradoxers hang out). Use the Debug tool to test the effects of your scripts, step by step (an aid whose value you won't believe until you try it). I bought several extra books, but Borland's own manuals are far and away the best. I wish all software manuals were as good.

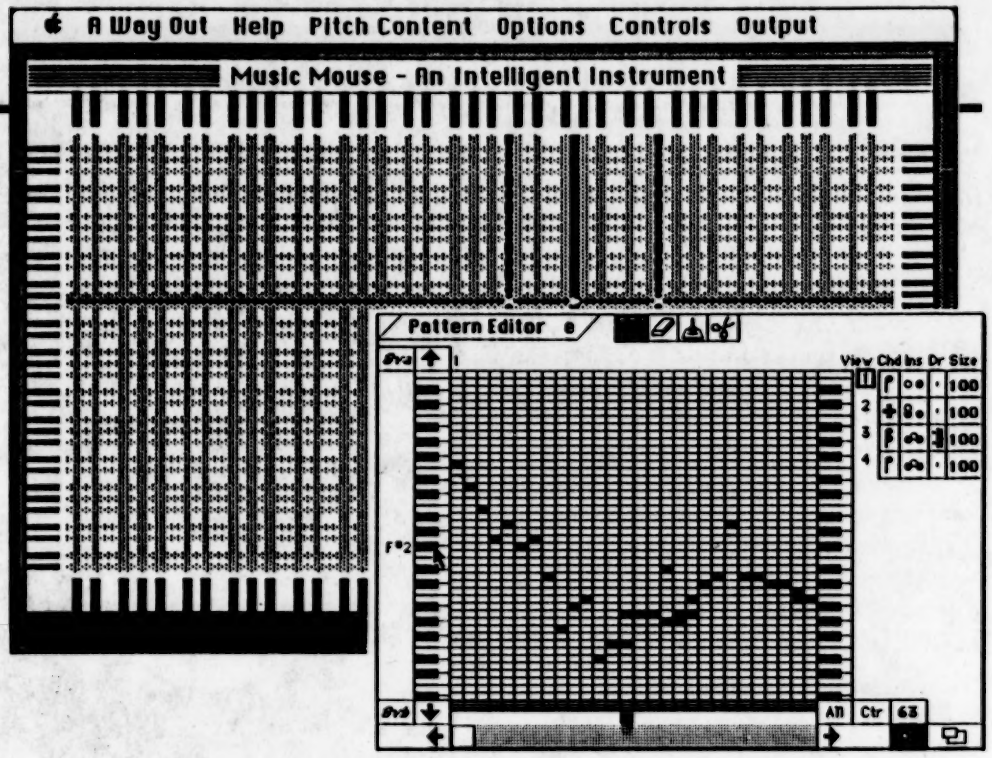
Database programming is not a bad way to earn a living, actually. I've already sold mine to a second gas station, and Lou is scouting around for me for a third. Guess I stayed on his good side after all. . . . —*Art Kleiner*

Paradox 2: Not copy-protected. For IBM compatibles, 512K. **$495** from Borland Software, 4585 Scotts Valley Drive, Scotts Valley, CA 95066; 800/543-7543.

Interactive Music Software

For years I dreamed of making music without knowing how to play an instrument. A sequencer seemed the obvious solution. Using MasterTracks Pro, my Mac SE, a cheap synth, and three lost years of grade-school piano lessons, I managed to compose a few nifty songs a painful layer at a time. But sequencer programs emulate multi-track tape recorders, reinforcing keyboard skills I never developed. And though they're often used in performance, sequencers aren't really performance instruments. Editing notes, transposing chords, quantizing rhythms and diddling with other MIDI data is essentially a monkish activity, "personal computing" personified. I wanted to play live music with living people. A pair of interactive programs for the Mac have helped me realize my lazy dreams.

Music Mouse offers instant compositional gratification. Anyone can make expressive, perfectly chorded music right away by simply moving the mouse to activate a pair of on-screen "keyboards." Lateral cursor movements generate note clusters in various harmonies (change from diatonic to Middle Eastern with a key click). Longitudinal movements play a second melody. Gliding the mouse in circles sets both "keyboards" twittering at once while you effortlessly alter rhythms, trigger cyclical accompaniments and page through synthesizer voices. To save your compositions you need a separate sequencer or a desk accessory called Tempo from Affinity Microsystems. Or you could go the old-fashioned route and record your tunes on tape.



M's Pattern Editor is virtually a program in itself, letting you create, play, and edit music with or without a MIDI keyboard. Just click in the grid to enter or delete a note, or grab an editing tool to edit or transform groups of notes.

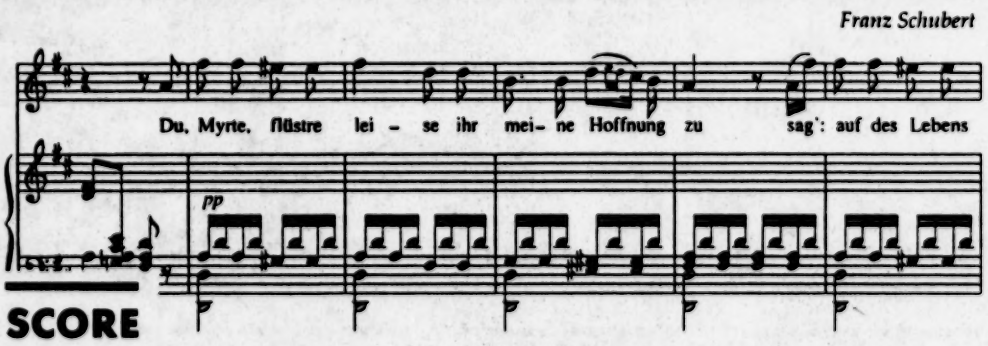
Initially intimidating, M (a second Mac program) requires hours of patience to decode its terse tutorials. But it generously rewards the effort by transforming passive listening skills into performance muscle. As leisurely as you like, you enter single notes or chords (up to 999) from a MIDI keyboard, which M plays back robotically at first. You change rhythms, note duration, time signature, velocities and other variables until you like what you hear. Then you move on to the next loop. You're allowed four loops at once and six four-loop patterns in all. Since each loop is totally independent of the others, complex and dangerous polyrhythms are possible.

M's biggest fun is as a performance instrument. Armed with a dizzying array of patterns and loops, you can jump among them without losing a beat, transposing passages, skewing tempos and changing orchestration while your sidemen struggle to keep up. M is strongest if you don't mind sharing songwriting credits with a machine, weakest if you want to exactly reproduce the symphony fully blossomed in your mind. If you're prone to melody instead of rhythm and despise repetition, stick to your sequencer. But if your tastes run to churning gamelan figures, Afropop propulsions or Phillip Glassian spirals, grab hold of M and jam on it.

—Bob Tarte

Music Mouse: Version 1.00. Copy-protected. For Macintosh, Amiga, and Atari ST. **$79.95** from Aesthetic Engineering, 175 Duane Street, New York, NY 10013; 212/925-7049.

M: Version 2.0. Copy-protected. For Macintosh, Amiga, and Atari. **$200-$250** from Intelligent Computer Music Systems, Inc., 116 North Lake Avenue, Albany, NY 12206; 518/434-4110.



SCORE

SCORE is a music notation program developed by Leland Smith at Stanford over the past decade, now available for the IBM-PC. The decade of work and experience show — you can score anything with this package, and it speaks PostScript, meaning that it will produce output on a LaserWriter or on Linotronic typesetters as readily as on an Epson dot-matrix. It makes Professional Composer, the current notator-of-choice on the Macintosh, look like a toy.

This power has a high price, and not just in dollars. SCORE's commands are terse and cryptic. Its interface is user-hostile and unforgiving. It accepts some input from a MIDI keyboard or a mouse, but all the really powerful features require a great deal of tedious text-based editing. The graphics display is more-or-less WYSIWYG, but it's definitely not a grab-click-and-drag editor. And is it slow! *You absolutely need an AT-class machine or better with a math chip. A hard disk is a must, as is a full 640K memory. And don't try to run memory-resident programs; SCORE wants your whole computer to itself.*

SCORE is a music typesetting system. *It's for publishers, not for composers. The average musician wouldn't want to tackle it any more than the average writer would want to learn the typesetting codes for a Mergenthaler VIP. To make life just that much harder, the documentation is a mess. But the engine at the center of SCORE is amazing. If you need a sophisticated package that can handle Ives or Stockhausen or Cornelius Cardew (I kid you not) — and you don't mind a learning curve like El Capitan — SCORE is the only game in town.*

—Carter Scholtz

SCORE: Not copy-protected. For IBM PC. Requires 640K, math chip, hard disk. **$795** from Passport Systems, 625 Miramonte Street, Half Moon Bay, CA 94019; 415/726-0280.

Roland Digital Pianos

One tough test of a solar or wood-heated home is whether a piano will survive in there. Wide temperature swings rapidly deteriorate a piano's delicate innards, with swelling, splitting, and warping causing constant out-of-tuneness. Because of this, I hadn't played for eight years. Until I bought a Roland RD300S digital keyboard.

It sounds like a compact disc of a good piano being played on a quality stereo system. Unlike synthesizers and most other electronic keyboards, the Roland feels like a piano too; the realistic action is better than many spinets. It never goes out of tune. It can be played silently through headphones, a boon to neighbors, housemates, and to yourself if you are shy about broadcasting mistakes. It's light — two weaklings can heft it easily.

The Roland keyboards also can do some interesting tricks, as you might expect. Best is the ability to transpose keys. When somebody says "Let's have that in A-flat instead of F sharp," you just push a button and continue to play in F-sharp. The music comes out in A-flat. Wow! And the machine makes many different sounds: three brands of grand piano, a Clavi, two types of Fender-Rhodes electric piano, a not-very-convincing harpsichord, and, yee hah, vibes, *man! All can be adjusted for loudness, brilliance, reverb effect and tremolo. The keyboards are MIDI-compatible. I* love *mine.* —*J. Baldwin*

(Above) Roland HP-4500. (Inset) RD-300S.

Roland Digital Pianos
RD-300S: **$2395**; HP-4500: **$3574**. Catalog **free** from Roland US, 7200 Dominion Circle, Los Angeles, CA 90040-3647; 213/685-5141.

Home Recording

A 16-page bimonthly newsletter for small recording studios. These folks are dedicated to plugging together off-the-shelf consumer electronic gear (and computers) to make basement tapes that pass commercial standards. Gadgeteers and music hackers will revel.
—Kevin Kelly

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Violinist Isaac Stern was interviewed recently on Terry Gross' National Public Radio program, *Fresh Air.* Talking about the beauty and mystery of music, Stern said, "What counts most is not which notes you play, but how you get to each note — it never happens exactly the same way." (Or words to that effect.) This set me thinking: True, notes never do happen the same way with dynamically variable instruments, such as guitars and pianos. What about ON/OFF instruments, such as organs, or synthesizers? He's right again: It's impossible to repeat a series of notes (and what's between them) in *exactly* the same way. But the maestro hadn't considered drum machines and sequencers: Even with "humanoid" tempo and velocity changes, even without auto-correction or step-time functions, they still quantize (round off) data to precise internal clock values — so that notes and what's between them can happen exactly the same way, time after time, upon demand.

Now maybe Stern's an old fogey, or maybe he's an insightful, soulful musician who's pointing something out to us. More than 70% of *Home Recording*'s readers are using MIDI; I'd like to hear from you. Do any of you MIDI-types yearn for the days when recording was based on *human* clock values? Can you tell sequenced music when you hear it? And do any of you *avoid* sequencers and drum machines for their lack of humanity? Drop me a line. We'll talk about it.

Home Recording
Brent Hurtig, Editor
$15.95/year (6 issues) from: Home Recording, 20085 Stevens Creek, Cupertino, CA 95014; 408/446-1105.

Roland Multi-Timbre Sound Module

You've got your computer chops down cold . . . now what are you going to play them on? Hook up to a Roland MT-32, a 128-voice keyboardless black box with convincing orchestral timbres from pipe organ to koto. String sounds lead with the rasp of a bow, flute notes with a burst of breath, because the synthesized loops are overlaid with attacks sampled from real instruments. Some timbres suffer from digital graininess — a faint afterimage afflicts the vibraphone, for example — and you need external software to edit the preset voices. But eight MIDI channels let you play at least as many sounds at once, and a ninth with rhythm section boasts two sampled drum kits and a battery of Latin percussion. With built-in digital reverb and nicely imaged stereo output, this may be the entry-level synth of choice now that the Casio CZ-101 has been discontinued. —*Bob Tarte*

Roland Multi-Timbre Sound Module: $499 postpaid; catalog **free** from Thoroughbred Music, 2204 E. Hillsborough Avenue, Tampa, FL 33610; 813/237-5597.

PROVERBS

BY SPARROW

An orange can't be too round.

Flamingos alternate legs.

The first wife remembers everything.

All saints are rude.

A triangle points three ways.

Volcanos are safe most days.

Anything can be giftwrapped.

No one ever relaxed in a lounge.

In time tractors will speak.

One reasons differently on an airplane.

Romeo wasn't built in a day.

Chinese food has a will of its own.

Flying is easy, landing is hard.

Everyone in a bathroom eventually meets.

The audience acts too.

You must open your eyes to cry.

Great artists survive their art.

Act One is always the longest.

The Mayor can't read everything.

Capitalism laughs at its own jokes.

Every prostitute has a theory.

Sometimes only a nightmare can wake you up.

Never pay cash for a satellite.

One noodle, long enough, is a meal.

Don't judge chess by its masters.

No palmist is anonymous.

Every balloon has an opening.

A carburetor is only clean once.

Atoms make quick decisions.

Addiction is the best teacher.

Love waits for a signal.

It's always warmer downtown.

The nose aligns with the penis.

The first massage was in jest.

The economy has no manners.

Stand on the Gospels and you'll be taller.

Consensus starts wars.

The more ottomans the more chairs.

Disbelief is the best revenge.

The last wish wins.

Cancer does its own research.

All vacations are justified.

Our ancestors were bullies.

Symphonies end on time.

Defeat is gradual.

Ambulances answer prayers.

Utopia is over.

Polka dots scare off investors.

If a shirt didn't have holes you couldn't wear it.

All tragedies are incomplete.

Suppressed laughter always returns.

A secret weapon cannot be used.

Nightclubs speak louder than words.

Everyone would be good if it made them money.

Science is mostly luck.

The weatherman's apologies go unheeded.

Work hard so the saints can relax.

Applause is a warning.

Walls make our choices.

Every child is a different color.

Converts are easily surprised.

The past is simultaneous.

Women are men with better clothes.

All recipes are lies.

Mourners see the future.

Twins are never geniuses.

All love is confession.

Two heads are bigger than one.

Everyone knows where you part your hair.

The famous punish us.

Where one book ends another begins.

A perfect fool doesn't know it.

Every benediction has its flaws.

Plastic flowers improve with age.

A nail can stand on its head.

The rich make promises the poor keep.

When one talks to a tree one tells the truth.

The last generation will be female.

Antarctica awaits its hero.

There are some tests everyone fails.

A paper clip can last a century.

To own something is to be puzzled by it.

When a check bounces the world watches.

Better to feign vice than virtue.

We all dress too quickly.

If you can, marry a tenor.

All cultures have dinner theatre.

A man in a tuxedo needs only one warning.

Mozart started on drums.

Death is wise to come only once.

Most of war is beautiful.

Some gifts arrive open.

No one leaves politics.

The dead look better by candlelight.

I've selected these from a 29-foot long scroll of proverbs submitted by Sparrow, a 35-year old New York poet who says "some of these appear to be from a brilliant lost civilization, while others show the unmistakable influence of Rodney Dangerfield." Solomon, the maverick wit in the Bible, would have nodded slyly.

— Kevin Kelly

On television everyone is small.

The apostles ate with their hands.

Aerobics is above suspicion.

A knot is wider than the rope.

Mosaics disappear at close range.

Mental illness changes history.

Most politeness is paid for.

Time zones don't have capitals.

No machine is silent.

The pagan gods were too friendly.

Know yourself — read your resumé.

Paradox is always personal.

You can listen to two people at once if they say the same thing.

Children love marriage.

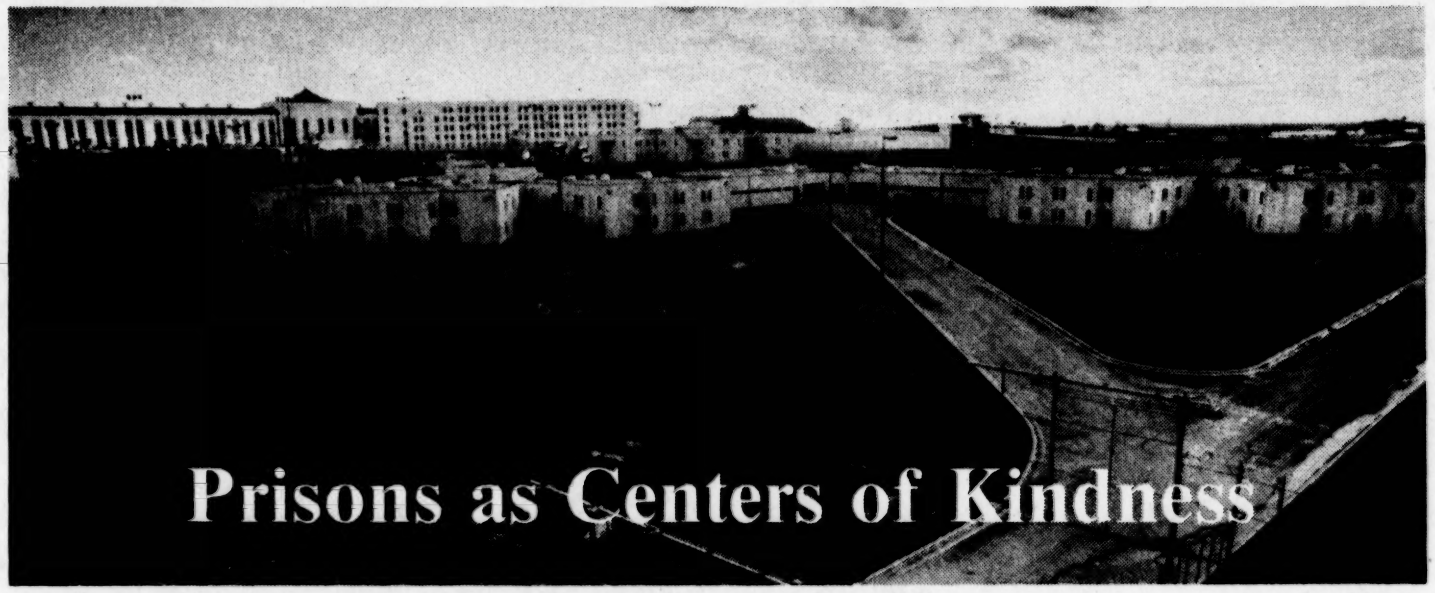
Missionaries know the best restaurants.

Love removes eccentricity.

Our ancestors disappeared into us.

Time waits for one man.

Hum a tune long enough and the radio will play it.



Prisons as Centers of Kindness

BY BO LOZOFF

BILL MOULDEN'S article, "No Prisons: The Only Real Alternative" (*WER* #60, p. 17), was very powerful and I was delighted your readers had the opportunity to mull over such a well-defined look at the sorry state of our prison system. I respect Bill's experience and share his insights and vision in almost every way, but I do feel compelled to point out two flaws in his argument. Before I point out the flaws, though, I want to say I wholly agree that non-violent criminals would do far better in community corrections programs, and it's heartening to see our nation moving in that direction, even if the primary reasons are economic. Now, on to the problems I see.

First, something is only a "real alternative" if it is at least remotely feasible. The idea of "no prisons" is so far outside the realm of current political and cultural possibilities, it may only serve to: *a)* further polarize the "bleeding hearts vs. hard-liners" positions, which ultimately do none of us any good; and *b)* delay or prevent constructive change within our present prison system. I for one am concerned for the welfare of the hundreds of thousands of people now locked up, not just for the future millions of similar souls. A major effect of the "no prisons" position (which is by no means new) has been to ignore these living, breathing people who have already been sentenced.

The second flaw is subtler but even more important. Bill Moulden unwittingly perpetuates the extreme narcissism which has doomed all our criminal justice programs, from the rehabilitative to the punitive. Conservatives and liberals alike have designed prisons as wholly narcissistic environments. The conservatives' narcissism is negative: in most prisons, the inmate's attention must be intensely focused on his own survival, on inmate power struggles, on literally watching out for his own ass. The liberals' narcissism is for the inmate to receive help, therapy, education, training; receive, receive, receive. Show me any system of ethics, philosophy or spirituality which posits such intense self-interest to be a path to happiness or social harmony.

Boulden sees clearly the conservatives' fallacies about punishment, but he doesn't have such a keen eye for these liberal fallacies about rehabilitation. It is condescending and myopic to proclaim that education and job training are the keys to correction. If that's true, what the hell went wrong with Ted Bundy, John Mitchell, Jean Harris, Ivan Boesky, John DeLorean, G. Gordon Liddy, a growing legion of white-collar criminals, and a hefty percentage of Nixon's and Reagan's cabinet officials?

It's certainly true that every citizen of our nation should have access to education and skills training, in or out of prison. But that's not the key issue. The key issue is that people who commit crimes against other people need to become kinder, more caring human beings. Do we really believe that educated people are kinder than uneducated people? If that were true, our planet wouldn't be in the terrible shape it's in.

I truly, truly don't mean to obscure Bill Moulden's commitment or contributions. I admire him deeply and will continue to work toward virtually identical goals. But I'm also working toward present-day prisons becoming "Centers of Kindness," because I don't need to wait for mammoth changes of social consciousness in order to do that. By "Centers of Kindness," I simply mean institutions which offer ample opportunities for prisoners to become givers rather than takers. Right now, in isolated instances throughout the country, prisoners translate books into Braille, build playground equipment for low-income preschools, raise garden vegetables for nursing homes, run a children's radio station, raise money for charities, build and repair toys for Christmas, and participate in a wide variety of delinquen-

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Bo Lozoff is director of the Prison-Ashram Project and the Human Kindness Foundation, in Durham, NC, and author of We're All Doing Time *(WER #50, p. 9) and of the forthcoming* The Freedom of Kindness. *—Kevin Kelly*

cy-prevention programs — *all without leaving the prison.*

I've heard from a number of prisoners who claim that neither probation, punishment nor rehabilitation programs had much effect on them until they stumbled onto an opportunity to be of value to others. And suddenly, the education and training programs, and even the fact of their punishment, finally found a context which enabled them to turn their lives around. They discovered within their acts of kindness a freedom which gave them hope and self-respect and, often for the first time, a connection with the rest of humanity. They found, as writer Susie Gomez once said, "It is an honor to be asked to help."

Each community has so many needs, it's hard to imagine that some of them couldn't be met by volunteers from the nearest prison — and I don't mean highway beautification crews, but rather projects with direct beneficiaries, projects with a heart-to-heart quality. Each prison could have a menu of "kindness projects" in which inmates are invited to participate. Such programs as the examples mentioned above have gone on in prisons for many years, but for the most part they're not supported administratively or respected as a serious component of rehabilitation; they're regarded mostly as "fluff." All I'm suggesting is to shift our rehabilitative focus to the obvious: the cultivation of empathy and altruism is paramount, not fluff.

Many prisoners have left deep scars in their victims' lives, and have been deeply scarred themselves — before, during and after their crimes. The milk of human kindness is a time-tested balm which heals such wounds and scars. With more recognition, planning, and institutional support, such projects could become a staple in our prison systems and affect millions of lives for the better, on both sides of the bars.

Whether in a system of community corrections, as Bill Moulden would prefer, or in our present-day prisons, our key to greater success is to deal with the most basic human issues of kindness and caring as the number-one priority. As luck would have it, these issues are best pursued in each prison and community, rather than requiring utopian changes in government or the culture at large. In other words, any of us can get out there and begin encouraging the grass-roots changes right now, with a high probability of at least some success. For the past two years, the Human Kindness Foundation has been gathering information on such prisoners-as-altruists programs. Before the end of '89, we'll publish a book, *The Freedom of Kindness,* to offer concrete examples and very practical advice for proliferating more such programs. ■

Exceptional People's Olympiad, Collins Bay, Ontario, 1981

Each of about 120 participants had a prisoner godbrother who helped them start, cheered them along, and celebrated with them.

About a dozen prizoners donned clown costumes for the day.

U. S. Jail Population Estimated to Exceed 1 Million by Year's End

WASHINGTON — The nation's inmate population will exceed one million by the end of the year, according to an analysis by a public interest group.

The projection by The Sentencing Project, which advocates sentencing alternatives to incarceration, is derived from data from the U.S. Bureau of Justice Statistics, showing more than 600,000 inmates in state and federal prisons and nearly 300,000 inmates in local jails as of last June.

The one million population estimate assumes a 6% annual increase. Annual increases in prison populations for the last several years have ranged from 6.7% to 8.5%. Over the past 10 years, the nation's prison population has doubled.

Lawrence Greenfeld, director of the Justice Department's correctional statistics program, said a prison population of one million "wouldn't surprise me."

Average costs per inmate range from $20,000 to $25,000 annually in most local, state and federal prisons, according to the group, bringing the total cost of supporting the huge prison population to more than $20 billion. "It's a staggering bill we cannot afford to pay," said Marc Mauer, assistant director of The Sentencing Project.

—Wall Street Journal 1/27/89

A Bright Shining Lie

When I returned from Viet Nam in 1967 I began reading about that country and its war. In those days that meant Bernard Fall's books, for there wasn't much else. The books increased as the war developed and finally concluded, each covering some aspect of combat, history or grand strategy, but I never found a volume that did it all in one readable book. Neil Sheehan has now done the job.

Sheehan arrived in Viet Nam in 1962, one of the first to cover the beginnings of the Kennedy administration's involvement. His roommate in Saigon was another young reporter, David Halberstam of the NY Times. *They both knew and respected John Vann, a maveric US Army Lt Colonel. Vann's military exploits and his unorthodox political analysis made him an in-country legend, and with the publishing of Halberstam's* ***The Making of a Quagmire*** *in 1965, his fame spread back to the US.*

In 1972, as Nixon's Vietnamization program began to crumble, Vann's incredible battlefield luck ran out. His burial at Arlington National Cemetery with full state honors was attended by everyone from General Westmoreland and William Colby, soon to be CIA chief, to Edward Kennedy and Daniel Ellsberg. Sheehan had recently broken the Pentagon Papers that Ellsberg, another Vann protege in Viet Nam, had leaked to him, but his major project was going to be a book focusing on Vann but covering the entire war. It took him 16 years to complete, but the effort paid off. It's a guided tour of the personalities, pressures and strategies that produced the war, and will illuminate any mind.

—Dick Fugett

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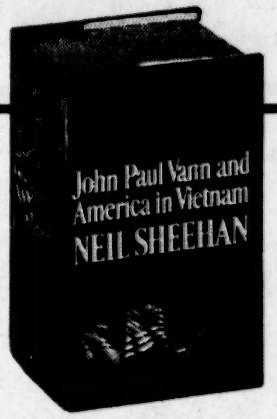
The system had given rise to a multitude of other distortions that encouraged corruption. One was the role played by the wives. Madame General X or Mrs. Colonel Y often acted as agents for their husbands, frequently dealing with other Madame Generals or Mrs. Colonels. The women liked the role, because it gave them power. A woman who was using the shield of her husband's authority to run a graft network acquired a share of that authority in the process. Many of the men also favored the arrangement, because it freed them from the tedium of financial details and allowed them to pretend that their wives were just businesswomen and that they were not crooks. There simply was no way for a man to remain truly honest and hold a position at a responsible level. Even if he took only what he needed and kept his wife under control, he still had to permit corruption to go on around him, and he often had to embezzle money for payoff demands by his superiors. If he insisted on honesty to the point of refusing others access to corruption, he became an outsider and was pushed from office.



A Bright Shining Lie
Neil Sheehan, 1988; 861 pp.
$24.95 ($25.95 postpaid) from: Random House/Attn.: Order Dept., 400 Hahn Road, Westminster, MD 21157; 800/638-6460 (or Whole Earth Access).

Animal husbandry students, here's one for the books! **Donna Matrix** and **Sir Render** have redefined the typical organ grinder and monkey act. Donna's boots are made for walking, and that's just what they'll do. She'll shout commands—her monkey man will take his strap to you.

Blab!

When this striking little magazine first appeared three years ago, I questioned whether its focus was going to be of interest to anyone beyond a small coterie of comics fans. The first issue was devoted to underground cartoonists discussing how they were influenced by the comics published in the fifties by Entertaining Comics, now best known as the publisher of ***Mad*** *magazine. I loved it, but would anyone else? Luckily, with each succeeding issue,* ***Blab!*** *editor/designer Monte Beauchamp has cast his net wider and wider. An interview with the Topps Bubblegum man behind the infamous Mars Attack gum cards, an exhaustive history of the little comics included in Bazooka Bubblegum, original comic strips by several of today's brightest cartoonists, along with further reminiscences by fellow cartoonists about R. Crumb and* ***Zap*** *have helped turn* ***Blab!*** *into an indispensable journal of junk culture. The latest issue (#3) clocks in at 128 pages in a quality paperback format. If you hold a warm place in your heart for weird comics, offbeat bubblegum cards, or revealing confessions,* ***Blab!*** *is for you.* *—Jay Kinney*

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The most astounding thing I learned about Crumb, during personal meetings, was how ignorant he was of his own audience. He was at a comics convention in Dallas; we sat together at dinner. He kind of whispered to me, "All these nerdy little guys with glasses!! Are these people the ones who've been buying my stuff all these years?" He was actually surprised. I said, "Well, yeah, of course! Haven't you ever been to a comic book convention?" "No," he replied. I was floored. This was in goddamn 1984, for god's sake!! He was appalled to discover the nerdy quality of his fans. "It's really depressing. They're such geeks!" I did a kind of doubletake. "Look who's talking, Crumb! *You're* a nerdy looking guy with glasses; I am too! Most of 'em are nerdy geeks, but you can't second-guess what these people are *really* like, any better than they can guess what you or I are really like!" That was a weird experience. I can offer no theory to explain this particular hole in Crumb's knowledge. I mention it only for history's sake. Surely he must've known that most of his readers were Foonts, not Naturals! Yet, I swear, he really seemed to expect his fans to be *normal* or something. It was very strange.

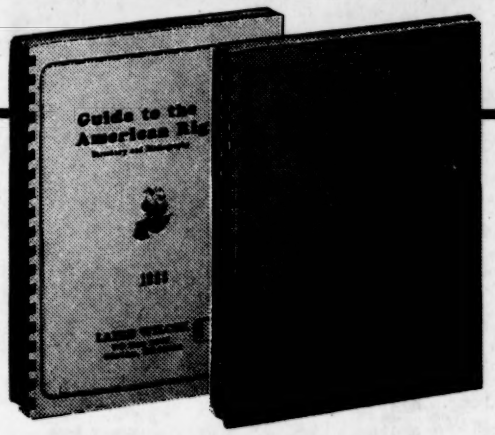
—Rev. Ivan Stang

Blab!
Monte Beauchamp, Editor
$7.95 each ($8.95 postpaid) from Kitchen Sink Press, Inc., No. 2 Swamp Road, Princeton, WI 54968; 414/295-6922.

American Right • American Left

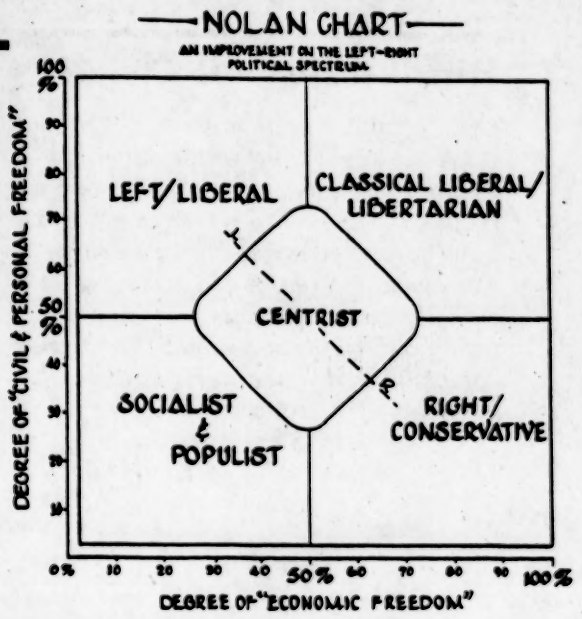
Laird Wilcox, whose Wilcox collection on Contemporary Political Movements, at the University of Kansas, is one of the primary repositories of extremist literature in the U.S., annually revises and self-publishes these directories to the American left and right. Essentially, they are spiral-bound printouts of his database of addresses of every left- or rightwing group and publication under the sun, sorted both alphabetically and by zipcode. Wilcox categorizes each group according to their focus (such as "conservative anti-communist," "libertarian," "tax rebellion," "nazi," etc.), and provides a bibliography of books by and about the left and right. Included in each ***Guide*** *is Wilcox's useful essay "What is Political 'Extremism'?" which analyzes the traits, such as sweeping generalizations and name-calling, that characterize the extremes of all political persuasions.*

At $24.95 each these ***Guides*** *are not for the casually curious, but if you are a student or researcher in search of addresses and contacts, this is the primary place to go.* —*Jay Kinney*



Guide to the American Right • Guide to the American Left
Laird Wilcox, 1988

$24.95 (each) postpaid from Laird Wilcox, Editorial Research Service, P. O. Box 2047, Olathe, KS 66061.



WARNING! READ CAREFULLY!

Do not assume that being listed in this directory tells you anything important about an organization or serial beyond the mere fact of its existence. The reader is advised to investigate individual listings before forming important opinions about them. Also, listing herein does not necessarily imply acceptance, agreement or sympathy with the policies, opinions or activities of any other listing.

Laird Wilcox

The Coercive Utopians

Depending on how attached you are to liberal assumptions about who are the heroes and villains on the contemporary political landscape, this book may send you screaming for the nearest exit. The authors' premise is that most "progressive" activists from Ralph Nader on down to the rank and file of our era's myriad eco/anti-nuke/peace organizations have manipulative, far-left agendas that the average American would reject out of hand if all the cards were on the table. If this sounds like conservative red-baiting, well it is. On the other hand, the authors go after their avowed enemies with such devilish glee, and throw in so many telling anecdotes, that I had to admit that they sometimes had a point. It's always valuable to read the other side's screeds now and then, and this one is a doozy. If you've been wondering about the mindset that managed to cast liberalism "outside the mainstream" during the last national election, ***The Coercive Utopians*** *may prove enlightening. Just have your Maalox handy.*
—*Jay Kinney*

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In the United States, as in Europe, Soviet efforts at manipulation have been channeled in good part through the World Peace Council. Expelled from France in 1951 and from Austria in 1957, The WPC's headquarters are now in Helsinki, Finland's dependence on the Soviet Union assuring it a permanent harbor.

It should be stressed that the WPC is the most transparent of fronts, and the "peace" in its title the purest Orwellian doublethink. In 1975 it gave its highest award, the Frederic Joliot Curie Gold Medal for Peace, to Yassir Arafat. That same year it gave a lesser peace award to Lolita Lebrun as an "outstanding Puerto Rican freedom fighter . . . who has been in U.S. jails for the last 20 years." (Lebrun, now free, was one of four Puerto Rican terrorists who opened fire on the U.S. House of Representatives from the visitors gallery during the Truman administration.) Another year the Joliot Curie Gold Medal for Peace was awarded to Leonid Brezhnev. The tribute to him accompanying the award was revealing of the WPC's perspective. In the words of the WPC's President Romesh Chandra:

> "The hundred of millions who stand for peace . . . see in this award a symbolic way to express their affection for Comrade Brezhnev, for the glorious Communist Party of the Soviet Union and for the entire Soviet people their gratitude for their brilliant leadership in the work for the implementation of the Soviet Peace Programme and for the carrying out of Soviet initiatives on all the urgent international issues of the day."

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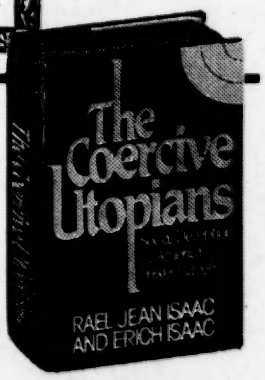
The PIRGs [Public Interest Research Groups] offer only one example of the double standard Nader employs for



The Coercive Utopians
Rael Jean Isaac and Erich Isaac
1983; 325 pp.

$7.95 ($9.45 postpaid) from: Kampmann & Co., 226 W. 26th Street, 8th Floor, New York, NY 10001; 212/727-0190
(or Whole Earth Access).

business as against his own "public interest" enterprises. He demands the fullest financial disclosure from corporations and government, but is chary of making such disclosures himself. He zealously protects the privacy of his donors and makes minimal disclosures about the finances of his own organizations. Public Citizen is the unit with which Nader raises money from the public. It sends out a yearly report to contributors but that report does not reveal that Nader has built up an impressive reserve fund. This can be considered prudent and reasonable for it cushions Public Citizen from possible fickleness on the part of its contributors in the years ahead. On the other hand contributors might become considerably less generous if they knew Public Citizen had a handsome nestegg. So Nader, who clamors for ever more information from companies, omits in his report information on Public Citizen's reserve fund.

Hidden Hawaii

O.K., it's not the South American Handbook but Ray Riegert writes about Hawaii the way Lonely Planet writes about Nepal. His jaundiced yet admiring guide goes beyond where to find less expensive places to live eat and hang out, to communicating in pidgin and counteracting anti-Haole sentiment. Hiking and camping, hidden beaches and remote locales are his strong suit. Excellent. Get the revised '89 edition.

—Stephen King

Hidden Hawaii
Ray Riegert, 1987; 370 pp.

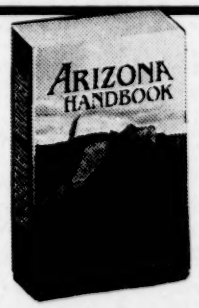
$12.95 ($14.95 postpaid) from: Ulysses Press, P. O. Box 4000-H, Berkeley, CA 94704; 415/841-5271 (or Whole Earth Access).

•

Strung like jewels along Kauai's shore lies a series of hidden beaches which are known only to local people. Among these are some of the loveliest beaches on the entire island, removed from tourist areas, uninhabited, some lacking so much as a footprint. . . .

Most can be reached only by private cane roads. These graded dirt roads are owned by sugar plantations and marked with menacing "No Trespassing" signs. Officially the public is not permitted, and few tourists ever travel along them. But local people use cane roads all the time.

They do so with the greatest courtesy and discretion, realizing that they are on private property. They watch cautiously for approaching cane trucks, and yield to plantation traffic. Most important, they respect the awesome beauty of these areas by leaving the beaches as they found them. As one Hawaiian explained to me, the golden rule for visitors is this: "If you want to go native, act like one!"



Arizona Handbook
Bill Weir, 1986; 448 pp.

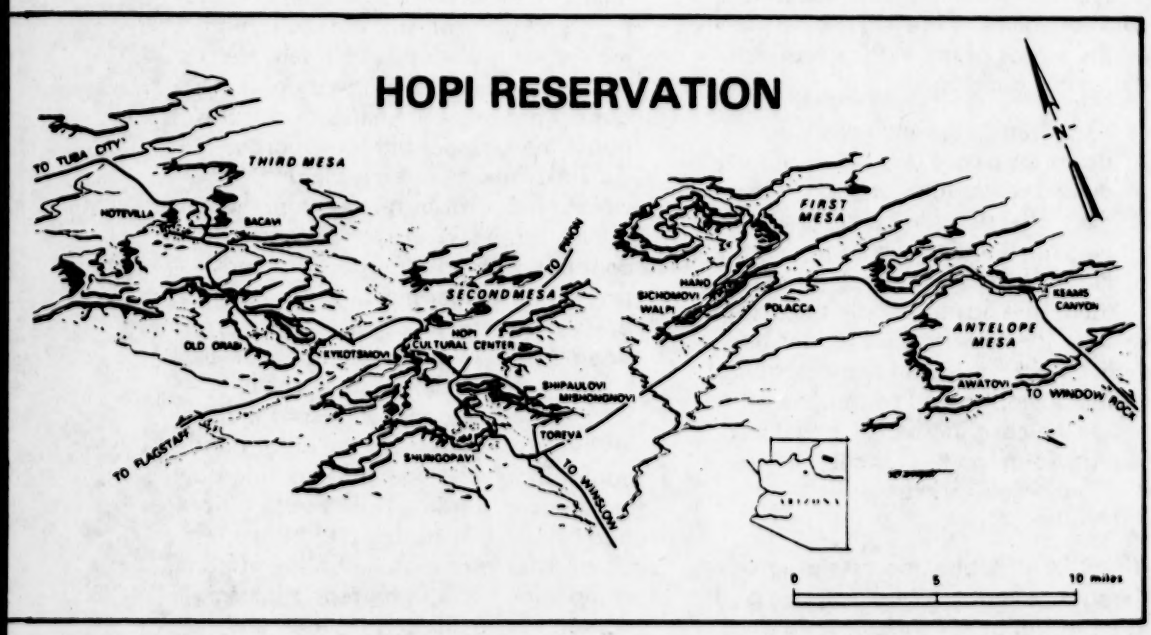
$11.95 ($14.95 postpaid) from: Moon Publications, P. O. Box 1696, Chico, CA 95927; 916/345-5473 (or Whole Earth Access).

Arizona Handbook

Detailed down to the layout of Navajo College campus, this is a close-to-home vagabond's guide on the order of the ***South Pacific Handbook****. History, hiking & creatively getting lost in an extraordinary state.* *—John Benecki*

•

Polacca: With an increasing population, some Hopi have built houses in settlements below the mesas, as at Polacca (po-LAH-kah). Still, if you ask a resident of Polacca where he's from, he'll likely name one of the 3 villages on the mesa above. Christians tend to locate on lower ground; you'll rarely see churches atop a mesa. Polacca stretches for about a mile along the highway, but there's little of interest. The big thrill is a visit to the top of First Mesa. A narrow paved road climbs steeply for one mile to the crest. If you have a trailer or large vehicle, you must park it in Polacca.



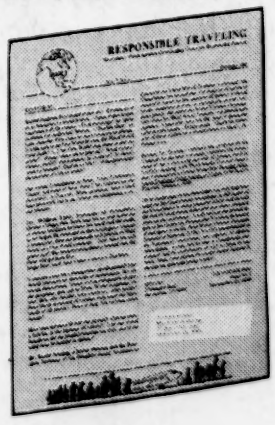
Responsible Traveling

A noble but tricky idea in the making. Here is a newsletter and association dedicated to examining how two strange occupations — hosts and traveling guests — have become the touchy industry by which many countries survive.

—Kevin Kelly

Responsible Traveling
Betty Stott, Editor.

$10/year (4 issues); SASE for sample from Responsible Tourism, 2 Kensington Road, San Anselmo, CA 94960.



Cycling to Xian

This magazine rarely reviews personal travel journals, mostly because there are so many and they are so introverted and they are so much the same. Once in a while, though, one gets to me for its sheer audacity. (And, I'll admit, in this case because the writer did something that I had thought about doing, but didn't, and because the perpetrator encountered some of the same problems I have encountered in the same country.) So here's this guy who decides to bicycle, on a one-speed, across China from Shanghai to Tibet. This is not a gonzo biker, either; when he began the trip he was still a smoker! *The story has the ring of crazy truth and risks, told with humor and admission of occasional dumbhead decisions that didn't work out. Just what you need as a spur for low-budget adventure of the best sort.*
—J. Baldwin

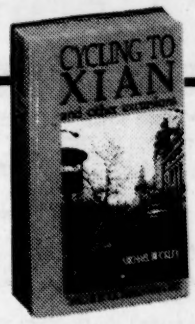
•

In Huaibei, instant amphitheatres were created around us wherever we stopped — to buy bread (crowd of 50), peaches (crowd of 40), pears (street-market, prolonged transaction — crowd of 200), cigarettes (40), and a can of curried chicken (department store — crowd of 80). For the local Chinese, we were better than television. The program was 'The Alien'. Episode 1: the Alien makes a purchase! Episode 2: the Alien produces a map. Episode 3: the Alien opens his bag! Episode 4: the Alien changes film. Episode 5: incredible — the Alien speaks some words in Chinese!

•

The quest for underwear continued — I scoured the drab department stores. Nothing. Till, in a larger store, I spied . . . women's underwear. Now here was a find — jockey-style, lightweight, strong, dried easily. I ordered three pairs. Large ones. Unfortunately, the salesladies realised they had great potential for live entertainment standing right there. They sniggered, and took their time about the transaction. Ah, how they tortured me. What colour did I prefer? Wouldn't another style suit me better? What about some patterned briefs? Was I really sure that the size was correct? Wait — there were larger sizes at the back of the store . . .

A crowd of some 200 shoppers had gathered to witness my agony. . . .



Cycling to Xian
(and other excursions):
Michael Buckley, 1988; 254 pp.

$14.95 ($17.45 postpaid) from: Worldwide Books & Maps, 736A Granville Street, Vancouver, BC V6Z 1G3 Canada; 604/687-3320 (or Whole Earth Access).

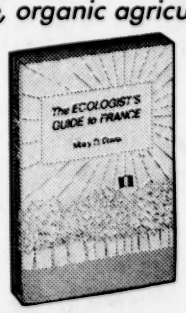
The Ecologist's Guide to France

This book isn't much to look at, but it's a great idea: a compendium of information that enables the reader to undertake an eco-righteous tour of another country. You'll find a description of the environmental movement in France, complete with names and addresses of organizations, a history of the Green Party, bike tours, national parks, energy-efficient architecture, organic agriculture, appropriate means of travel and places to stay (where you'll be likely to encounter kindred spirits). If you're headed for France, take a copy along. If you're looking for an interesting editing gig, why not do a book of this sort for each U.S. state or something? —J. Baldwin

•

Small-Scale Hydropower
The association BIEF Picardie has restored an abandoned industrial water mill southeast of Saint-Quentin. The staff lives at the mill and there instructs unemployed young people in maintaining the river to prevent flooding and to produce energy without employing the drastic measures often used by French authorities: Moulin de Lucy, 02240 Ribemont (23-63-78-22).

Joel Quillacq operates a sawmill run by hydropower northeast of Dax in Aquitaine. To meet him and see his equipment, contact him at Lou Haou, Louer, 40380 Montfort (58-57-24-69).



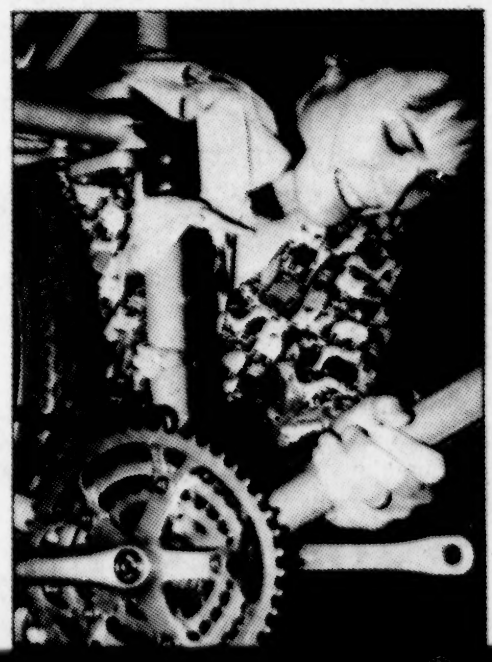
The Ecologist's Guide to France
Mary D. Davis, 1988; 140 pp.

$6.95 ($8.20 postpaid) from: R. & E. Miles, Publishers, P. O. Box 1916, San Pedro, CA 90733 (or Whole Earth Access).

United Bicycle Institute

Now you can go to school to learn the intricacies of bicycle repair. (And if you think bike repair is a simple matter, you just haven't been paying attention.) Taught by recognized professionals, the two-week beginner's and one-week advanced courses give you a good start into a field of endeavor that fairly seethes with interesting machinery and people.
—J. Baldwin

United Bicycle Institute
Information **free** from 423 Williamson Way/P. O. Box 128, Ashland, OR 97520; 503/488-1121.



Echoes from readers back to *Whole Earth Review*
(27 Gate Five Road,
Sausalito, California 94965)

The degradation of environmental certainty

I co-own a natural food restaurant in Palo Alto, CA. We use foam products for our take-out business. We have always used foam made without CFCs, so that is no problem. Palo Alto just notified us that use of CFC foam will soon be illegal in the city; fine with us, we never used it.

Considering our type of food, many of our customers are environmentally sensitive (not to mention us). Some refuse to take out their food in the foam, which is okay with us; we wrap it in paper for them. We have considered changing to another type of container, but it is not a black-and-white choice.

First, foam is functionally superior to the other choices. It insulates, is light, fairly strong, and does not leak. It is also less expensive than paper or foil.

Here is what I have heard from several sources, of varying potential accuracy:

It requires more energy to make paper than foam, so the use of petro-products is actually greater for paper than foam, even though the foam is made of them. Apparently the chemicals used in making paper (especially cleaning, bleaching, and coloring) are not that nice, either.

Paper bio-degrades, but most ink doesn't. When the paper is gone, you are left with (apparently VERY poisonous) ink to seep into the groundwater. An environmentalist I saw on PBS said that at least when the foam went into the dump, he always knew where it was. (Unfortunately, I have no idea who that man was, or what the program was.) Of course, if improperly disposed of, foam products can litter the landscape for a long, long time, providing "visual" pollution and wildlife endangerment.

Apparently foam can be burned for energy. This doesn't get done now, and I know nothing about the residue or polluting of such, but it is an interesting possibility. I presume paper could be burned as well, although recycling is probably more efficient.

So, frankly, because foam is functionally superior, cheaper to use, and not clearly less environmentally sensitive, we continue to use it. We do wish to do our best, but I can't see a clear choice after looking deeply into the problem. What I would like are sources of hard data for some of the above points so that I can affirm or deny them. If we are going to change to something which will cost more, and have customers potentially arriving home with cold or leaking food, I have to be SURE it is the right thing to do.

William Lynch
Palo Alto, CA

Run, Joseph Campbell, run

Last January you more or less gave me permission to use material from *Whole Earth Review* on AEGIS, the All English General Information System [a computerized educational network in Japan] as long as we conformed to the sense of "fair use" in that we were not making money from it. Thus from time to time we have been putting up articles or excerpts from articles in the *Whole Earth Review* and people have found them useful. However, many of those accessing AEGIS are not native speakers of English and do not have the vocabulary required to read such material and I would like to propose a solution to this problem. It will take some time to explain so I hope you will bear with me.

Last year, some of the people who come to the classes I teach at the NHK Culture Center in Osaka became advanced enough such that the type of material normally used to teach English was no longer appropriate. At first we tried using short stories, magazine and newspaper articles, but the vocabulary, and in particular the usage, in such normal text required that each person spend a lot of time trying to figure out what was meant by using a Japanese-English dictionary. Not only did this require a great deal of work outside of the time we met, but I had to spend a great deal of time explaining things that could not be deciphered by using the dictionary. When I read a review of Hypertext, I said to myself, "Wouldn't it be great if people could just sit there and when they didn't understand a work or expression zap open a little box giving them the meaning?" It's still a good idea, but there is not the installed user base of people to make that a practical reality here in Japan, the land of high-tech equipment and pencil pushing office workers. So, instead, I have developed a system of side-by-side glossing such that the person reading the text can just shift their eyes off to the right to see how words or expressions would be expressed in simpler words. I call the system *Actual English*.

The basis for choosing the words is a 2,000 word dictionary; words not contained in the dictionary become candidates for glossing (the Defining Vocabulary from the *Longman Dictionary of Contemporary English*). The intent of the glosses is to "translate down" into simple words such that the reader can get on with the business of

Joseph Campbell
The Mythological Dimensions of Consciousness

The **means whereby** to **identify**
dead forms is.
Mathematical Law.
The means whereby to understand
living forms is
Analogy.
– Oswald Spengler

From the early 1970's until his death in 1987, Joseph Campbell **lectured** to thousands, **weaving together** East and West, the ancient past and the present, **mythology**, art, religion, history, and literature. His **presentations**, usually two days long, were always **illustrated by** powerful slide images, and the subjects included **Arthurian Romances; Hinduism, Buddhism,** and **Taoism; The Goddess; Dante, Picasso,** and **Joyce**; Death and **Transformation.** A master **storyteller** as well as a **scholar**, Campbell always brought his subject to life and made it **relevant** to the lives of those in his audiences.

We ask many questions, but if we keep pushing back, we **ultimately** get to: "Who are we and what are we doing here." In the past, religion

means whereby - way
identify - recognize; know
Mathematical Law - by measuring it, especially with numbers
Analogy - by comparing it to something else

lectured - spoke
weaving together - putting together
mythology - science of ancient stories that explain natural or historical events
presentations - seminars; talks
illustrated by - together with
Arthurian Romances - stories of King Arthur
Hinduism - Indian religion
Buddhism - relgion from the teachings of Buddha
Taoism - religion from China
Goddess - Religious mother figure
Dante, Picasso and **Joyce** - famous western authors and artists
Transformation - Changing
storyteller - teller of stories
scholar - person of great knowledge
relevant - connected; important
ultimately - finally; at the end
addressed - talked about

The surrogate mugging blues

As a student of aikido for the last 7 years, I read with interest Lisa Geduldig's article on women in the martial arts (*WER* #62, p. 130). I am lucky to practice in a dojo that is about 1/3 women who, by and large support each other and our practice. Some of them are magnificent athletes and aikidoists as well as good people. I do think that Ms. Geduldig underestimates the amount of women in martial arts historically. In feudal Japan (which means up to the Meiji restoration of the 1860s I believe) women in the villages trained with the naginata to protect themselves and their crops when necessary. I also believe that samurai women were trained in the use of weapons. In China, women also trained with weapons and hand to hand confict but it was away from the eyes of men. There are probably some schools and techniques that are exclusively feminine. Like a lot of women's history, they were secret, hidden, not written down or brought out in the open.

Unlike Ms. Geduldig, I have been to a model mugging. Last February, I went to the only public demonstration that model mugging allows, the graduation of a class. In the local YWCA, a group of about 60 of us listened to a short lecture about the model mugging course and concepts and then went down to the gym where we saw the instructor and about 20 students and 2 "muggers" go at it. The class-members are instructed to show loud vocal support for their class-mates who are being "mugged" and the audience was instructed to do the same. So there was a lot of screaming and yelling, a lot of applause as the women went through their paces. It is frankly a vicious spectacle. The students go for the eyes, the groin, the instep, the solar plexus and the knee. They have to bring the "mugger," huge in his shoulderpads and padded helmet, down and "knock him out' or immobilize him. He uses not only physical intimidation but also verbal and psychological intimidation, calling the women names and telling them what he's going to do to them and how he "feels" about them. It is as close to real as you can probably get.

As the demonstration went on, I got sadder and sadder. It was not only that such a course had to exist but that there might be other ways to approach the situation without resorting to such violence. I think of Terry Dobson's work. Everything was very up and go for the jugular and perhaps I felt assaulted by such violence, not just as a man but as a person. I had been thinking about volunteering to be a "mugger" but put that aside after watching the demonstration. Talking to one of the "muggers" afterwards, he was exhilarated and proud. He was providing a service that empowered women, people, to control their own lives and bodies and at the same time, he was getting to wrestle like a 12 year old with a seriousness that isn't usual on the mat and protection to help keep him from harm. I could understand and maybe even envy the arena where an individual could cut loose and not worry about the sparring partner. The catharsis alone is probably worth a lot of time on a couch and I have recommended the program to a friend who went through a divorce with rumors of violence. But still that feeling of sadness remains with me. I called the organizer of that class a few days later and wanted to talk with her about what I felt but when I told her that I wouldn't be interested in working as "mugger," she wasn't interested in talking to me, perhaps feeling that anything negative I might have to say was not necessary for her to hear. That residue of sadness stays with me.

George Mockray
Cambridge, MA

understanding the meaning of the text and not get caught up with trying to learn just the meaning of the words. In this way, over time, people gain an idea of how words are used, instead of simply knowing what their possible meanings might be but not be able to understand a text — which is the situation I found myself faced with when I started teaching in Japan.

I have enclosed a sample text, *Joseph Campbell: The Mythological Dimensions of Consciousness* (*WER* #59, p. 127) as I use it in my classes. Copies are made using the office copy machine and no charge is made for the material; the source is credited and I trust people accept this as "fair use." Perhaps not, but most language schools in Japan make use of such material.

Having invested a considerable amount in the development of the system, I would now like to offer this material to others. In particular, I would like to offer *Actual English* as both hardcopy texts sent by mail and data downloadable from AEGIS.

Making *Actual English* texts available to others puts the question of copyright in a new light. There would be no additional charge for downloading the glossed material from AEGIS. In fact, the material will be placed in any section such that even guest members (anybody who can connect to AEGIS with their modem and personal computer) can access it. But I would like to charge for providing hardcopy versions mailed to subscribers of a newsletter. At the moment, we are just starting and thus I cannot tell you how many copies we will be making of the material, but I believe it will take some time to develop any significant number of subscribers. As for the length of the articles, each *Actual English* page contains approximately 250 words exclusive of the glosses, the usual maximum number of pages being such that a full text can be run off on a copy machine using only one piece of paper; thus the size of the quoted material would run between 250 and 1,000 words. Since it takes a fair amount of time to gloss such text and print it, I would like to have some indication that permission would be granted before doing the work. If you think you would be willing to give permission and/or think that individual authors would be willing to give permission for using material from the *Whole Earth Review* as the basis for *Actual English* to be sent to paying subscribers to a newsletter, then I could send along each article as I made it up asking for permission. As you can see from the enclosed sample, information on how to subscribe to the source of the material is now included along with the more literary information (an idea I got from Eric Utne who has given me permission to use material from his magazine *Utne Reader.*)

I am looking forward to your consideration in the matter of using material from the *Whole Earth Review* as the basis for *Actual English* in the interest of furthering the use of English for international communication.

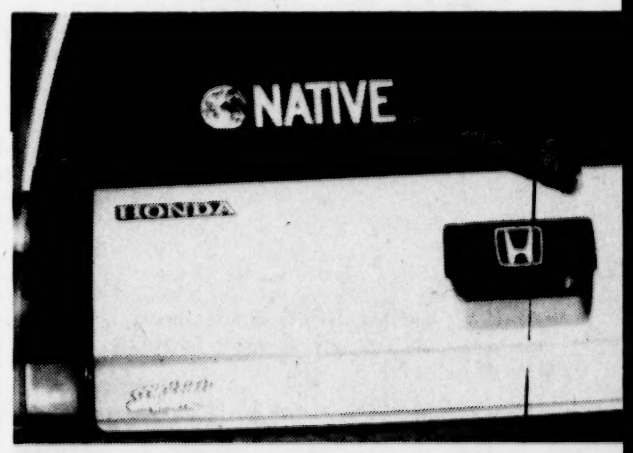
David G. McLane
Kyoto, Japan

In the age of electronics, copyright law is a dinosaur running down on old batteries. It needs a recharging. In the meantime, I figure if it is OK to photocopy the article, you can modem-copy it as well. How do you authors feel about this? —KK]

A bumper sticker with one mass market

Thought you might enjoy the way I recycled your Whole Earth postcard. Please use this concept in any way you like.

Flypaper
Wichita, KS



Feedback on *Signal*

Initial reaction to *Signal:*

Irrelevant information for the techno-priesthood.

My secondary reaction is somewhat mellower. It is relevant, and it is from the techno-priesthood, rather than for it. As a "computer professional" myself, I can

understand the fascination but I fear that you have been seduced by the power inherent in computers. The first problem I note is that they are not "low-rent, high-yield." The original *WEC* was portable, relevant, and available, even to the disenfranchised. While a Mac SE may meet our definition of affordable, it is not to someone who is trying to break free of "established" society (come to think of it $16.95 is not as affordable as the $4.95 tag on the *LWEC*, inflation notwithstanding). While I find *Signal* entertaining, I also find it mainstream. It tells me more of what I already know, rather than expanding my communication frontiers. Those people who are "into" communication are likely to be interested, but the book lacks the eccentric breadth of previous *WEC* productions, even conceding its limitation to the field of information. I want a book that will show me items I had not conceived of before, items considered beyond today's frontiers, dangerous information, items likely to make governments nervous. A few bizarre examples.

1) Information as sabotage
Your support for monkey-wrenching (eco-terrorism) to protect trees is not in step with your aversion to "cracking." Information is control. At this time, cracking is a hobby. In the age of smart cards, the credit society, and government protection, it may become a survival skill for anyone on the fringes. (Perhaps someone threatening your data makes you more inclined to condemn this . . . fellow brothers of the data-priesthood?

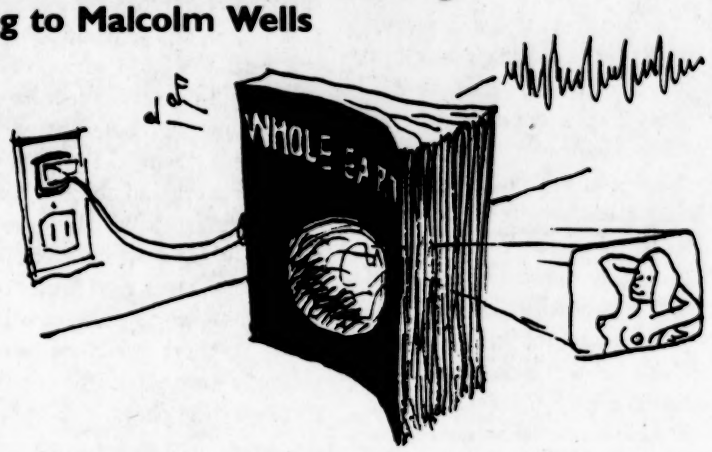
2) Radical borderless information
With the advent of laser and modems, pamphleteering has new possibility as a radical device. As long as I can accept 300 DPI, I can distribute anything, without regard to public opinions or government censorship. (Gee, international kiddee-porn, terrorist newsletters, radical gardening tips?)

3) Unfavored information
Whatever happened to alternative lifestyles? Why no comment on government suppression of pornography? (The removal of *Playboy* from 7-11s was a great blow to adolescents everywhere.) Sex education? Methods of mind control? Bad information (false statistics, etc.)?

Let us not forget that information must be spread wide to be effective. Give me a book that I'd have to explain to my nephew, that his mother wouldn't like. Standard sources I can find through a good online card catalog. Give me the rest of the information!

Still Listening
Mark Ellis
Harrisonburg, VA

The Electronic Whole Earth Catalog according to Malcolm Wells



Time warp

I am writing to ask you if the *Whole Earth Catalog* is still available and for what price. We bought a farm in the country without heat, light, or phone and in one of the buildings we found the *Whole Earth Catalog*. It was dated 1974. There are many things in it that we are interested in. We would like to know if it is still available and for what price. Thanking you sincerely for whatever help you can give us.

Mr. and Mrs. Kendrick Fraser
Nova Scotia, Canada

It's OK to cut off human heads?

I have to say that I am disgusted, appalled, and outraged that you would print an article on vivisection — and prominently positioned in your Summer 1988 issue! Because of your article by Chet Fleming (*WER* #59, p. 12) *[it's about the technology and ethics of keeping a human head alive —KK]*, I will never buy your magazine again. We have no right to chop up innocent dogs and cats and monkeys — whether or not there is any chance of saving a sick and aging human being. It is brutal and unforgivable.

Linda Trageser
San Cristobal, NM

Office folklore on our bulletin board

THE WORD

In the beginning was the Plan, and the Specification;
And the Plan was without form, and the Specification was void;
And darkness was upon the faces of the Programmers;
And they spake unto their Project Supervisor, saying:

"It is a crock of shit, and It stinketh"

And the Project Supervisor went to the Project Manager;
And he spake unto him, saying:

"It is a crock of excrement, and none may abide the odor thereof"

And the Project Manager went to the Vice President;
And he spake unto him, saying:

"It is a container of excrement, and it is very strong, such that none may abide before It"

And the Vice President went to the Senior Vice President;
And he spake unto him saying:

"It is a vessel of fertilizer, and none may abide by It's strength"

And the Senior Vice President went to the Executive Vice President;
And he spake unto him saying:

"It contains that which aids plant growth, and It is very strong"

And the Executive Vice President went to the President;
And he spake unto him saying:

"It promoteth growth, and It is very powerful"

And the President went to the Board of Directors;
And he spake unto them saying:

"This powerful new product will promote the growth of the company"

And the Board of Directors looked upon the Product, and saw that It was Good.

Knitted diaper covers

I appreciated your coverage of the "disposable" diaper myth (*WER* #60, p. 60), but found the accompanying sidebar on covers for cloth diapers inadequate.

Please tell your readers that they needn't pay $10 to $15 apiece for commercial alternatives to rubber pants. Waterproof woolen diaper covers can be knitted for just $4 apiece.

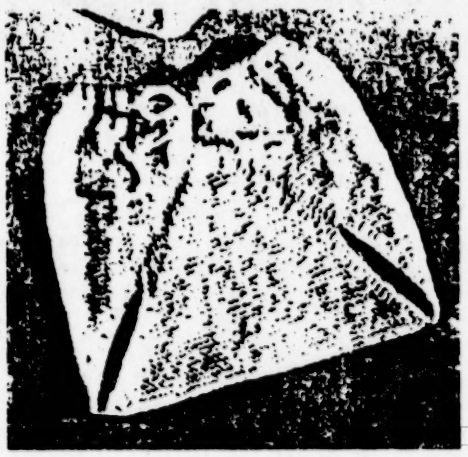
Here is the pattern my mother used to knit half a dozen "soakers," as they're called, for my baby, now ten months old. (From Spinnerin Handknits for Baby, vol. 108. Spinnerin Yarn Co., Inc., 30 Wesley St., South Hackensack, N.J. 07606, 212/244-1220.)

Use virgin wool (with the lanolin left in) and wash completed soakers in moderately hot water a few times to shrink and matt the wool. Hand wash with mild soap; it may be possible to machine wash them, but I have never tried it for fear of removing the lanolin.

Although they have been called "soakers" since Victorian times (or earlier) it's a misnomer: Once the wool has shrunk and matted they are quite waterproof and don't soak up anything at all. My eight soakers vary in the degree to which they have shrunk, perhaps because of differences in tightness of stitches or in the number of times they've been washed. But all of them keep the baby dry between changes (2-3 hours) and the best ones keep her dry all night without a change of diapers.

I am quite happy using cloth diapers. It takes a little more time, but I feel that much more involved in my daughter's welfare, both present and future.

Sincerely,
Cynthia Norman
Burlington, VT



Soakers, No. 2175

- SIZE: Infant
- MATERIALS: SPINNERIN PIL GRIM. 2 2-oz. Balls. 1 Pr each Knitting needles Nos. 3 and 5.
- GAUGE: 6 sts—1 in 12 rows—1 in
- PATTERN: Garter St (see page 33) and Ribbing of K2. P2.

With No. 3 needles. cast on 128 sts. Work in ribbing of K2, P2 for 4 rows. Next row: *K2, YO, P2 tog. repeat from * across row. Work in ribbing of K2. P2 for 4 rows more. Change to No. 5 needles and work in garter st as follows: Row 1: Knit. Row 2: Knit. Row 3: K2. K2 tog. K to within 4 sts of end of row, K2 tog. K2. Repeat these 3 rows until 4 sts remain on needle. Bind off.

- FINISHING: Sew ends of ribbing together at center front. Fold soakers so that point comes at bottom of ribbing at center front. Sew side seams. leaving a 3 in opening for each leg. Make a cord (see page 33) and draw through beading at waist. Sew a tassel (see page 33) to each end of tie.

Corrections, etc.

The New Yorker *article mentioned in the opening paragraph of "John Ott, Light Pioneer," (*WER *#60, p. 102), is dated January 14, 1985, not 1988.*

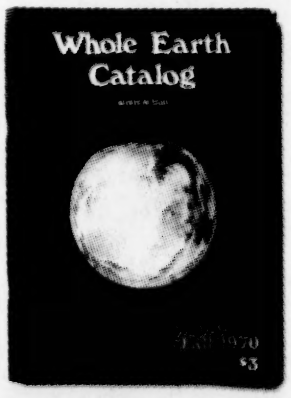
*Also, thanks to Jimmy Reina for suggesting the review on the Router Master (*WER *#62, p. 106).*

*The new address for the Masuen Company (*WER *#62, p. 114) is 490 Fillmore Avenue, P. O. Box 901, Tonawanda, NY, 14151-0901.*

*Renew America (*WER *#59, p. 87) is now called Seventh Generation; same address, same phone number.* ■

Perception/Reality (an ad campaign by *Rolling Stone*) from *Adweek*

Perception.



Reality.

If you still think the readers of Rolling Stone are sending away for blueprints of geodesic domes, put this information on your order blank: Last year, Rolling Stone readers spent more than 4 billion dollars on electronic equipment. If you're looking for a place to plug in your product, you'll find the power in the pages of Rolling Stone.

Rolling Stone

27 GATE FIVE ROAD SAUSALITO, CA 94965

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The UNCLASSIFIEDS are a reader-to-reader service available to *WER* subscribers only. They're designed to provide a cheap communications network for *WER* readers and mild financial assistance to the magazine.

UNCLASSIFIEDS are a great way to reach, survey, educate, link up with fellow *Whole Earth Review* readers. Send us your words, ideas, product descriptions, thoughts, messages . . .

WE DO HOME BREW. We'll help you to. Any kind, any place. If you can boil an egg, you can make your own beer. Free Catalog, and a toll-free order line. Great Fermentations, 87W Larkspur, San Rafael, CA 94901. 1-800-542-2520.

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LET'S SEE WITH OUR HEART these things our eyes have seen, and know the truth will still lie somewhere in between.

OLD, BROKEN-DOWN 41 year old white man seeks beautiful, young, wealthy, waspy woman, age 25 to 32 only, to have a couple of kids with. Have a couple of college degrees. Nominally interested in space exploration. Occasionally fly old airplanes. Send photograph and phone number. JM, 8080 S. Main, No. 17, Houston, Texas 77025.

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GREAT SWAMP GRAPHICS announces a limited edition, 4-color poster (18" x 24") "The Connecticut River." *Satisfaction guaranteed.* Signed or unsigned. $18.95 to GSG, P. O. Box 1086, Middletown, CT 06457

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YOUR TRANSIT GUIDE integrates chakras, archetypes, and planetary energies with Astral Yoga techniques. Also includes a 25-page natal report; $97 Visa/MC/check. Transpersonal Astrology, 1827 Haight Street, #10, San Francisco, CA 94117. Please call 415/752-1000.

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FETID ADDER'S-TONGUE —*Scoliopus Bigelovii.*

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• **You must be a current subscriber.** Please send a current mailing label (or copy) from the cover of *WER* when you send in your ad copy. You may become a subscriber when you place your ad. *WER* subscription rates are $20/year ($24/year foreign and Canada). Please add this amount to your payment if you are not currently a subscriber. Order forms for subscriptions are at the back of the magazine.

• **Rates are 75 cents a word.** You count them and send us payment with copy. We will not bill. Payment must accompany the ad and be in U.S. funds drawn on a U.S. bank.

• **The first few words in your ad will be in capital letters.** We cannot do any other words in capitals.

• **To run a repeat ad:** Multiply your ad payment times the number of issues in which you want the ad to run. Send in that amount and we will print the same ad that many times. If you decide to repeat your ad after it has run, or if you wish to make a change in the copy, you must submit the ad again.

• **Deadline** is June 26 for the Fall issue, September 25 for the Winter issue, January 5 for the Spring '90 issue, and March 27 for the Summer '90 issue. Sorry, we will not take ads over the phone. Ads received after deadline will be held for the following issue.

• **We print ads in the order received.** "UNCLASSIFIEDS" means "no categories."

• **Mail ad and payment** (made out to *Whole Earth Review*) to: Susan Rosberg, WER UNCLASSIFIEDS, 27 Gate Five Road, Sausalito, CA 94965.

ACCESS TO SUBS WHOLE EARTH STYLE

BY PAUL DAVIS AND RICHARD SCHAUFFLER

FOR THOSE OF YOU who've always wondered what happens to your subscription order once it leaves your mailbox, here's a look at our end of the process. We are now processing all our subscriptions ourselves, following the old adage "If you want something done right, . . ." That means that when you subscribe, you are dealing with us, not a bunch of nameless drones in a corporate block somewhere.

Five days a week, someone who needs fresh air walks over and picks up subscription mail, addressed to Box 38, at the Sausalito Post Office. Box 38 is for subscription mail and book orders only. (Make a note: mail intended for our editors gets to them faster with the 27 Gate 5 Road address; mail dealing with subscriptions and orders should go to Box 38.)

Back at the office, the mail is opened, checks are recorded and separated off to go into the bank deposit by David Burnor. Once David is done, the mail can be sorted using a system of labeled baskets along one wall, with orders, payments, changes of address, claims for lost issues or other problems all going their own way. Enthusiastic fan mail is usually read aloud; particularly artful mail is often posted on the kitchen bulletin board in the office. On the other hand, vitriolic rants just get everyone depressed, and receive no special treatment.

Every few days, the contents of the baskets are assembled into batches. The often mind-numbing chore of keypunching is usually handled in shifts, mainly by Susan Rosberg and Dick Fugett.

Getting the data back out again, in the form of mailing labels, renewal notices, gift cards and various financial reports is handled by Paul. We mail gift cards every week, so that recipients don't have to wait around to find out about their good luck. We do four big quarterly magazine mailings as each issue is printed, each one followed by two smaller mailings to catch new subscribers, or those who paid late, so they won't miss an issue. Renewal notices and bills go out monthly, though there is an unavoidable lag time between the time we print them and the time they reach your mailbox. If you get a notice after you've just paid, instead of complaining, recite this mantra: "If You Have Already Renewed, Please Disregard This Notice." You'll feel better in no time.

Which brings us to the third party in the transactions between us: the Post Office. Whenever you write us, don't forget the time it takes for your letter to get to us, and a response to get back to you. Also remember that the magazines and our renewal notices don't travel by first-class mail, so they move more slowly. Many "problems" are just the result of not having allowed for mailing time. Likewise, the vast postal system can easily devour a copy of the magazine without so much as a burp. If you don't get a copy, please don't assume that we are withholding it for some malicious reason, because we don't do that. More likely, we sent it weeks ago and are just as surprised as you are that you haven't gotten it. Keep that in mind when you write.

THE TOOLS WE USE: HARDWARE

One of the significant obstacles to bringing our fulfillment in-house was the cost of acquiring the hardware needed to do it. It was a lot of money, but, when we considered what we would save by doing fulfillment ourselves, and the benefits of having immediate access and more precise control of our subscription data, we determined that it would pay for itself in customer service.

We're very happy with the equipment we bought, and haven't had problems with any of it in the year we've been running the system. Here's what we use:

Kevin Kelly

From the top: David Burnor is the first person you meet on the way to our memory bank. He opens mail and records each check that arrives.

Righthander Richard Schauffler pitches your order into the appropriate basket. Using the highly evolved Whole Earth sorting system, Schauffler is currently 6-0 for the season.

Paul Davis translates your request on the order form (write legibly!) into computerese. Our subscription forms can be quite complex; maintaining sense in the database requires constant vigilance.

Susan Rosberg enters you into the memory of MacSUB. In front of her, the array of vital equipment: (l to r) Poster with aerial view of the city of Fez, Morocco; Mac II, external hard disk, tape drive, back-up tapes and log book, radio tuned to beautiful music. Missing: bag of carbohydrate junk food for morale boosting.

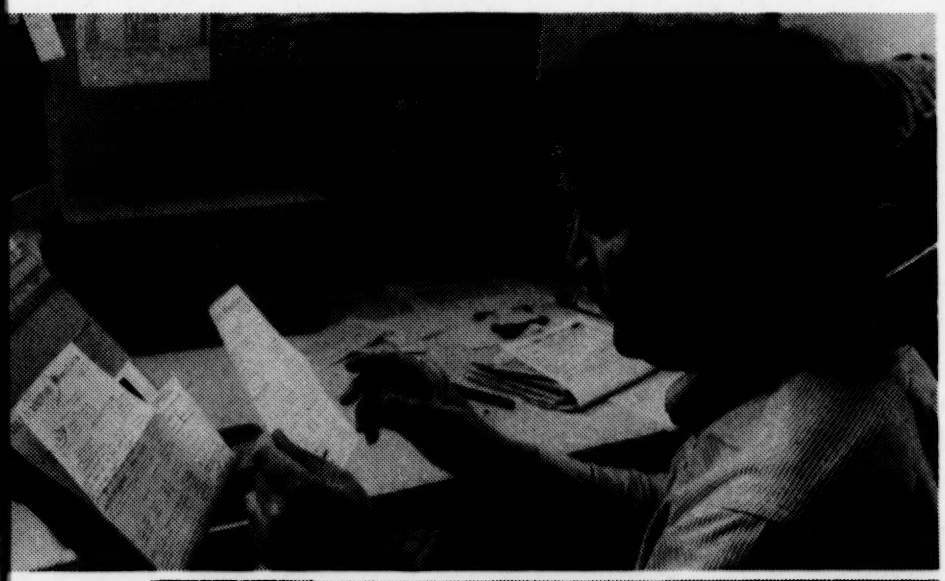
Our main computer for subscription work is an Apple Macintosh II, upgraded to two megabytes of memory ($4,800). We bought the box plain, with no Apple hard drive, and added a third party internal hard drive ourselves, a 60 megabyte Pro II from CMS ($600).

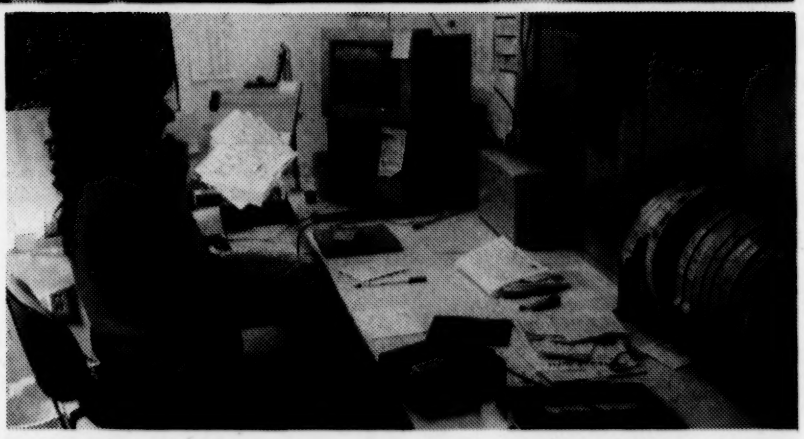
Our subscription files (your names and addresses, etc.) and software are stored on a sturdy external hard drive. We use a MacDisk from Priam Corporation, a 234 megabyte drive about the size of a four slice toaster ($2,000).

For data as important as our sub file, rigorous back-ups are a must. We use a 9-track mag tape unit, which also allows us to produce a tape of our mailing list which will run on the mainframe used by our mailing list broker. We use the Qualstar "Mac-Streamer" and backup software that we bought from NovaStor Corporation ($4,000).

The printer we are using is a C. Itoh TriPrinter CI 4000, model 40 ($1,700). It's a low-slung, fast machine; it spits out mailing labels at about 9,400 an hour, which enables us to do the whole printout in a little over two hours. It accepts both regular and pin-feed paper in a variety of sizes, so we can use it for labels, renewal notices, invoices and gift cards. In the months we've been using it we've never had a paper jam. We've put ours on a pedestal . . . well, ok, it's just a freestanding printer stand.

In our waterfront location, we get frequent power spikes and voltage drops as the boat hoists down the street do their thing. This would quickly fry the chips of our equipment were it not for our power supply unit, which is designed to provide filtered, clean and uninterrupted power to the system. In the event of a blackout, it sounds an alarm and provides backup battery power, allowing us to carefully finish our work and shut down the system without losing any data. Ours is manufactured by Tripp-lite ($500).





SOFTWARE

Our subscription fulfillment and circulation management software is MacSUB, an application designed by Brauch Software using Omnis 3 Plus (a relational database program). MacSUB is a real-time, on-line, in-house, mission-oriented, can-do kind of package, well designed for managing small to medium sized magazines, newsletters and other periodicals ($16,000). MacSUB automates many processes, including order entry, billing, renewals, mailing labels, charge card orders, promotion response statistics and more. We've had our share of problems getting our data to behave correctly within this system, but the majority of our problems have been with our data, not with the software.

YOU AND US

What can you do to maximize your subscription benefits? First, always let us know where you are. Do not rely on the post office to forward magazines, as they prefer to tear the covers off and send them back to us. Use our handy change of address card; we'll pay the postage. Second, pay up on your renewals and bills promptly. It minimizes confusion and the possibility of disrupting your subscription (it saves us money too.) Finally, in your communications with us, always assume that we are honest, competent and have a desire to do the right thing. That way, when we make mistakes, we won't feel insulted, just apologetic. ■

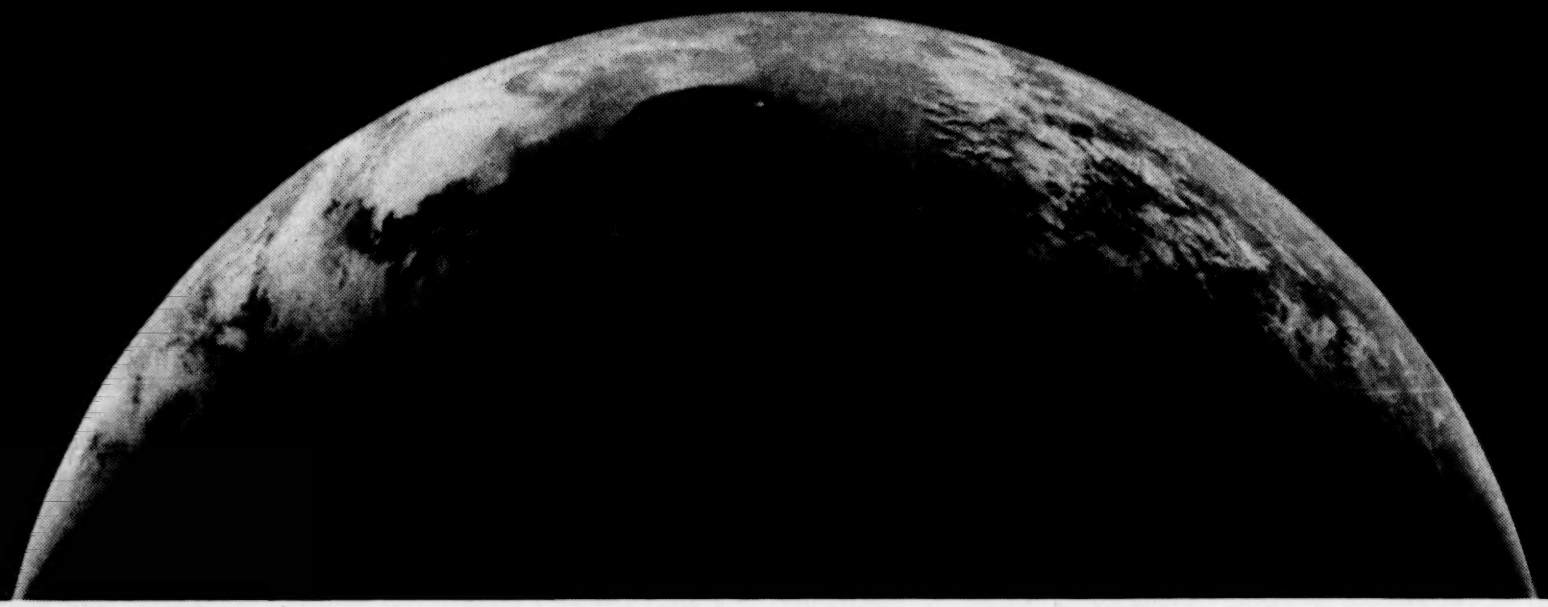
Your Names, Please ?

OK, let's make this simple: we need names. Lots of names. Names of people you know who should know about us. People who might subscribe.

Why are we asking you? Because you probably know people who would subscribe. Because renting names from others can be expensive ($70/1,000 names, of whom maybe 2% (20 people) will respond, so $70 for 20 names = $3.50 per good name.) Because we'd rather reach people who would be happy to know about us than disgorge a wasteful and annoying flood of unsolicited junk mail to a bunch of Manny, Moe and Janes who couldn't care less.

Last issue, we quietly asked for names; to date, we've received only 167 names from about 85 of you (85 out of 22,000 = .003% = shocking!). Now we are begging, screaming, pleading, whining for names. We thought it best to ask each of you for two names; that way we get everyone's best two candidates. But the "better fewer but better" strategy only yields many when most respond. Get it?

Turn now to the bind-in card at the back of the magazine. Detach the uppermost card from the page. Write the names of two people in the space provided. Drop the card into the postal stream. There, that didn't hurt at all, did it?



WHOLE EARTH REVIEW First Quarter 1989	
Income	
Subscriptions/back issues	$ 69,336
Mailing list rental	2,459
Direct distribution	16,873
Warner (national newsstand)	13,790
Book sales	597
Newspaper column	1,590
Contributions	6,401
Other	5,992
Total Income:	**$ 117,038**
Expenses	
Salaries	70,844
Payroll taxes	5,528
Magazine printing	30,380
Circulation promotion	6,015
Subscription fulfillment	7,977
Rent/maintenance/utilities	11,478
Writers/contributors	7,180
Telephone/postage	3,544
Direct distribution	1,614
Warner (national newsstand)	3,001
Vacation/health insurance	2,861
Other costs	10,819
Total Expenses:	**$ 161,241**
MAGAZINE PROFIT/LOSS	**$ -44,203**

POINT FOUNDATION	
Income	
GBN Project	16,439
Whole Earth Review	117,038
CD-ROM Project	10,000
Total Point Income:	**$ 143,477**
Expenses	
GBN Project	9,922
Whole Earth Review	161,241
Signal Project	420
CD-ROM Project	870
Total Point Expenses:	**$ 172,453**
POINT PROFIT/LOSS	**$ -28,976**

The WELL	
Revenue:	**$ 109,398**
Expenses	
Payroll	36,073
Computer/Communications	34,373
Office	6,508
General/Administrative	10,912
Sales	1,466
Total Expenses:	**$ 89,332**
WELL PROFIT/LOSS	**$ 20,066**

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• **PERPETUAL:** $10,000/life. Perpetuals get a set of back issues (as complete as we have), two copies of every Point Foundation book or product, and get their *WER* in an envelope, air mail, for earthly forever (a Perpetual subscription can be willed to descendants, or passed on to others), as long as we are around.

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• **MANIACAL:** $1,000/life. Maniacs get their *WER* in an envelope, air mail, as long as they (or we) live.

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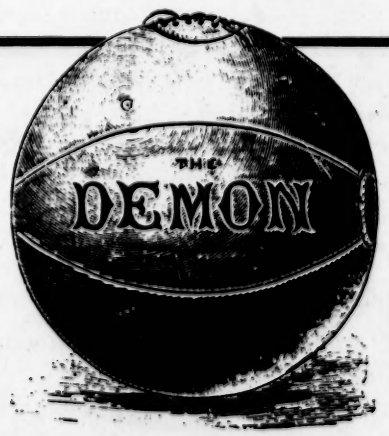

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A $25 donation secures your membership in the **Whole Earth Preservation Society and Volleyball Reserves**. It also helps to support this magazine. In return, you receive one year's worth (four issues) of a newsletter filled with gossip, news, letters, and other information. We'll print your name in ***WER*** (unless you prefer otherwise).

Send your check to Whole Earth Review, 27 Gate Five Road, Sausalito, CA 94965. The newsletter is mailed between issues of the magazine to Society members. Thanks for your support!

New Preserves: **Steven F. Jones** Portland, OR; **Cliff Martin** Creswell, OR; **Judith Richards** Houston, TX

GOSSIP

LATE SPRING. WARM. A hummingbird is nesting immediately outside the office kitchen window above the sink. The nest is olive drab, perfectly camouflaged among the eucalyptus leaves. It looks just like one of those seed pods on the branches. Over to the right, there, do you see it? Wait, and you'll see a very tiny chick's head pop up. Here, you can wash the coffee mugs while you wait.

Life is stirring after a quiet winter. "You're looking for gossip?" the staff exclaims with eyebrows raised incredulously. They sigh wistfully. Little gossip comes to mind. Secret passions are familiar by now. The wild, intense life we are reputed to live has moved on to some other office in magazineland.

J. Baldwin, guest editor last issue, always has a story. He returned recently from Soviet Georgia where he was part of a team setting up ecological summer camps for Soviet/American kids. His role is bullshit filter for the ambitious plans to use solar energy at two sister sites in Tablisi, USSR, and Colorado, USA. While in Russia he witnessed a "sixties-style happening, except the students were singing Gregorian chants as protest songs. Very weird, and very beautiful."

Kevin Kelly

The Big Iron arrives. The long-sought-for "real" computer for the Well is unloaded by many eager hands. It will speed the Well considerably, and allow many more users. $20,000 of the money to buy it was loaned as advance payment by the members of the Well. A matter of local economics. They were investing in a community upgrade, and also getting more horsepower to hobnob online.

J. has also been allowed to mine the mind-boggling archives of Buckminster Fuller. Bucky left behind a "chronofile," an accumulated diary comprising several tons of paper, films, tapes, and notebooks. Included is every letter Bucky received (love letters, too), every carbon copied answer to those letters (love letters, too), every blueprint, sketch, photograph, document, article, note, journal, clipping, parking ticket, etc. in Fuller's six decades of work. Professional archivists claim that his "chronofile" is the most exhaustively detailed record of a person in the 20th century, and that it would be worth preserving for its completeness even if the subject were not Bucky Fuller. Bucky also left hundreds of thousands of little cards with cryptic proverbs and insights. How to organize such a non-linear mind? It's a job for HyperCard! says J.

We tried out HyperCard in the ***Electronic Whole Earth Catalog****. Overall it's worked wonderfully. Copies of the* ***Elec-WEC*** *have just gone out to the press and have brought rave reviews from the experts. Stewart Alsop, a trusted critic in the PC field, declared it the best thing he's seen on HyperCard CD-ROM. Bill Atkinson, the inventor of Hypercard, called up in exhilaration one afternoon saying he had just spent half a day using the* ***Elec-WEC*** *for research and was blown away by it. That's like Gutenberg thanking you for a beautiful book you made.*

Jeanne Carstensen and Richard Kadrey were two of the co-editors of the ***Signal*** *material (****WER*** *#57, and later the book) which delved into the disembodied realm of information. In this issue they have teamed up to reverse the concept, informing the dis-minded realm of the body. Their striking work appears on pages 2-70. Jeanne puts out the Whole Earth column in the* ***San Francisco Chronicle*** *each week. Richard is at work on his second cyberpunk novel. Working title is* ***Kamikaze L'Amour****, probably to be changed by the publishers to* ***Cafe Juju****.*

Paul Davis, ***WER*** *sub king, mentions that he been getting his kicks serving as a juror in the National Educational Film Festival, which rates student films. (The panel includes ex-Lucasfilm crew. Most of the gonzo talent has left Lucas for filmmaking startups in the Bay Area, he says.) His favorite so far was a black-and-white, Chaplinesque silent film about a yuppie working in the ME Corp.*

Backyard orchardist Dick Fugett reports that his winter grafts are taking. He's creating a fruit-salad tree — a single tree that bears plums, apricots, and peaches — all the "stone" fruits. Cindy Fugett, one of our bookkeepers, is about to bear an accounting degree. She won her third scholarship and is on her way to a CPA — a small dream come true. Editorial assistant Corinne Hawkins trafficks in dreams two afternoons a week when she meets with a dream-interpretation group. "It's a life-long passion I'm currently indulging," she says. "Although I've kept dream journals for many, many years, I'm trying new stuff like making a table of contents for them and working through the patterns methodically." James Donnelly, rat lover, is constructing a De-Lux rat cage for his two impending rats. His three-by-two-foot rat condo is made out of copper framing and wire cloth, has an Arcosanti-esque tri-level design, a deck with tree, and is painted with organic paint so the rodents won't get poisoned when they gnaw on the walls. An (unused) Victorian coffin nameplate hangs over the cage door: "Our darlings."

And that's the news from Sausalito, where animals are pampered, dreams are indexed, and all the ideas are above average. —*Kevin Kelly*

WANTED

1 A crackerjack publisher for this publisher-less magazine. Duties include overseeing the financial business of *WER* in its small and large details. Qualifications: ease with numbers, and an entrepreneurial flair. Salary? To come from whatever extra you can earn us. Benefits? Mostly intangibles like great people to work with, a never-ending river of interesting ideas, and the opportunity to meet the most fascinating people we know.

2 Resources, contacts, thinkers, and written material for an upcoming issue/book on "Restoration." We'd like to hear stories of remedies for environmental damage that really work. We're looking for places that have been restored to good health, either deliberately or inadvertently, and we're after the tools, strategies and processes that made it happen. Stories of major restoration failures are wanted, too.

3 Reviews of wonderful how-to videos that stem from expertise in a particular field. Most of the really good instructional videos are from small outfits that have limited advertising and narrow distribution. They're hard to track. Tip us off when you come across a great video that taught you better than a book could.

4 Contacts and overseas correspondents for research on "The Global Teenager," a hypothesis about the consequences of a world populated mostly by kids under 20, plugged into a global economy. We have a questionnaire we'd like to have foreign readers and travelers try out on teenagers outside North America. Please write us.

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The phrase "or Whole Earth Access" that appears under most of our access information means you can order the product from the Whole Earth Access Company, an outfit inspired by the ***Whole Earth Catalog*** but not financially connected with us in any way. *Do not send orders to* ***Whole Earth Review.***

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If your subscription has a defect, please address all correspondence to us at P. O. Box 38, Sausalito, CA 94966.

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Share the *Whole Earth Review* — give a library a subscription! These people have (since last issue):

Michael Madnick to the Book Review Index, Detroit, MI.

Gail and Tremaine Arkley to Rogue Community College, Grants Pass, OR; Clatskanie Public Library, Clatskanie, OR; Joseph City Library, Joseph, OR.

Joe Bauch to Chinook Learning Center, Clinton, WA.

Oregon and Iowa Librarians: Gift subscriptions are available through the generosity of Gail and Tremaine Arkley, and that of Ed Mead.

If you would like to adopt a library, send your contribution to: WER Library Fund, 27 Gate Five Road, Sausalito, CA 94965.

If you are a librarian who would like a gift subscription for your library, send your request to Susan Rosberg at the above address.

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Send a letter to Keith Jordan, ***Whole Earth Review***, 27 Gate Five Road, Sausalito, CA 94965 for rates and information.

Recent renters: Amnesty International, New Options, Public Citizen, Chi Concepts, World Watch Institute, Mystic Trader, St. Mary's Hospital and Health Center, New Road Map Foundation, Leonardo, Co-op America.

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. . . Order Back Issues

Most back issues are available from us for $6 each, postage paid. The following issues are rare or out of print: 1-14, 27, 28, 52, 55, 61. Inquire for prices, availability, and list of past contents. Send orders to 27 Gate Five Road, Sausalito, CA 94965, or call 415/332-1716.

How to submit things to *Whole Earth Review*

27 GATE FIVE ROAD, SAUSALITO, CA 94965

1. ***Send them.*** *Address them to* Whole Earth Review, *attention: Assistant Editor, 27 Gate Five Road, Sausalito, CA 94965, and drop them in the mail. We are sitting here, bored as anyone else, reading all the mail, hoping some of it will be good.*

What's good? New, not read a hundred times before, not an imitation of old WER *articles, often a personal passionate statement. Articles that sound like articles are often dead. Consider yourself to be writing a letter to an intelligent, uninformed friend about something that is interesting/important to you. We often print things that everyone, including the author, thought were too odd to be printed anywhere. Remember that we print all lengths from a paragraph to many pages, so don't puff a good, short idea into four tedious pages. And please don't try to please us by creating something you think we'll like. Being hustled is boring. We'd rather print true love — yours for your subject. All things are possible and may be printed. We have no editorial policy for or against any subject matter.*

2. ***Enclose a stamped, self-addressed envelope.*** *That's a courtesy. You are much better at writing your address than we are — all that practice. If you don't address and stamp an envelope for us to reply or return things in, you're asking someone here to be your secretary. If we all did our own clerical work, there would be no secretaries.*

If you are in another country, don't send foreign stamps. Go to your post office and buy an "International Response Coupon" and send it. We take the Coupon to our post office and redeem it for U.S. postage.

Submissions and reviews can be sent to us electronically on The WELL, our regional computer network (Whole Earth 'Lectronic Link), by modem at 415/332-6106, or long distance along Tymnet. Type "go we" and leave a message, or send e-mail to 'kk.'

3. ***Keep a copy.*** *We are careful and good, but not perfect. You should never send anyone the only copy of anything.*

4. ***Be patient.*** *We sometimes reply on submissions the day we get them, but you shouldn't get worried about no reply for about two months. Sometimes we have to show things to our far-flung, part-time editors, and that can take even longer. On the other hand, don't wait a year to tell us you sent something and didn't get an answer. Many manuscripts will have flowed over the desk in that time, and it will be hard to remember what happened to yours or if we ever saw it.*

5. ***Be legible*** *and put your name and address on the first page of the manuscript. Those are all the rules of form we have. It's helpful to type if you have a typewriter (please double-space), but handwriting is fine if it's very neat. The name and address are so you don't become a mystery person if your envelope gets separated from your manuscript.*

6. ***Avoid query letters.*** *Query letters are what writers' magazines tell you to send editors to find out if they are interested in a subject. We're less interested in the subject than in what you do with it. If at all possible, please send us the manuscript.*

Exception: You have found an interesting and complex subject that would take a lot of time and work to write about. If you want to know if we might be interested before proceeding, write a detailed, fact-filled letter about what you know and what you want to do, and send samples of your writing. The details and the samples might make it possible for us to make an intelligent reply. But in every case, it's better to send a manuscript than a query. (Please note: WER *doesn't have a budget for "kill fees," so all submissions are on spec.)*

7. ***Notes on reviews.*** *Write to that smart ignorant friend, introduce the book or whatever and get out of the way. A paragraph should usually be enough. In book reviews, the quotes are the thing — ideally they should be immediately useful and contain the soul of the book. You don't have to type the quotes, just note page numbers. It's not necessary to analyze the book; just say exactly why you love it. It can take a long time to get a final decision from us on a book review. We don't decide about printing it until we've seen the book, which we order from the publisher, who may take a couple of months to send it. (Don't you send the book unless you don't want it back; it's hard enough to deal with returning manuscripts.) If we decide not to use your review, you won't hear further from us. If we do use it, you'll receive a check and tear sheet upon publication.*

We like to review books of all ages, especially unheard-of wonders that got lost in some shuffle.

8. ***Photographs for articles.*** *The best by far for us to work with are black-and-white prints (either matte or glossy finish) that are 5x7 or 8x10 inches. We can make do with 3x5s. Never send your negatives unless we ask for them.*

9. ***Money and rights.*** *We pay upon publication for everything we use. $15 for letters, $30 for photos, and $100 to $500 for articles. The article money varies depending on length, wonderfulness, and provision of illustrations. Item, book, and software reviews work like this — you get $20 for being the first to suggest an item and $20 for reviewing it. If you do both, you get $40.*

WER *buys first-use rights on material, though we reserve the option to reprint things in the* Whole Earth Catalogs *or our "Whole Earth" newspaper column. (If we reprint you'll receive another fee.) Contributors retain all other rights.*

10. ***Will you still love us*** *if we reject your offering? Editing is arbitrary. It's hard to explain why any given piece is rejected. To understand that, picture yourself leafing through a magazine, not liking an article, and suddenly being confronted by the author who wants you to explain why you didn't like the article. A cogent explanation would be somewhere between awkward and impossible and definitely time-consuming. Our rejection notes tend to be short. It has to be that way if we're to have time to read all the mail carefully. If we turn down your piece, we may not convey in the note that we are grateful for all mail, that mail is all we've got, that the magazine would not exist if it weren't for mail from strangers who are good enough to share the wonders of their world with us.*

We're waiting to hear from you. ■

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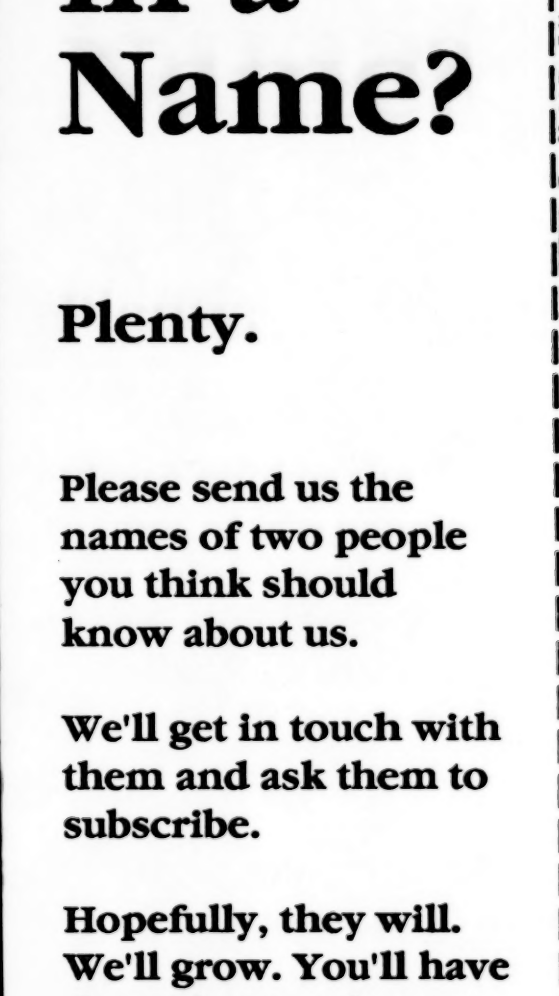

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- **Spontaneous and miracle remissions in medicine**
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- **Living in treehouses**
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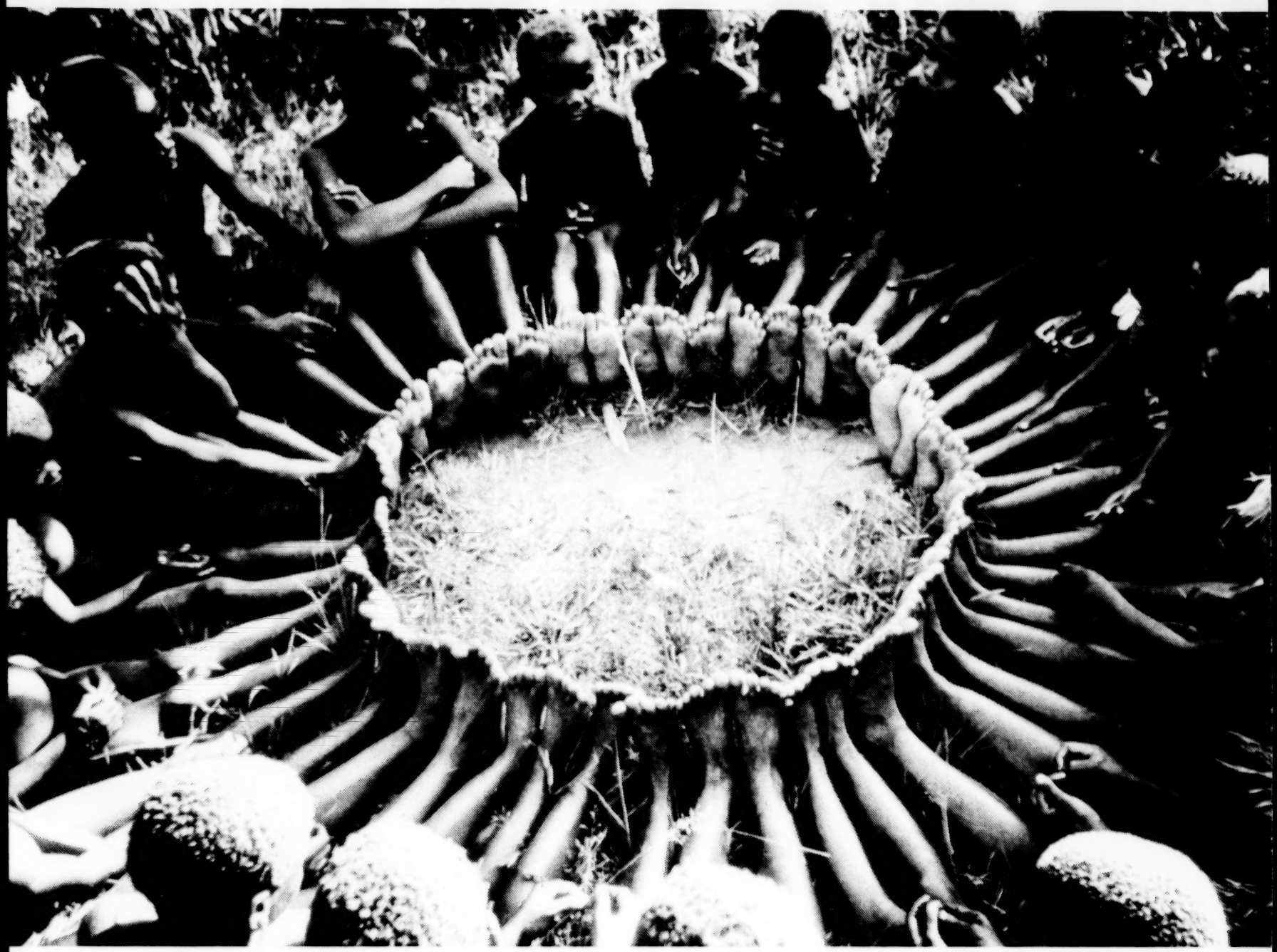
- **And the usual More.**



ABANI
(the Circle)

This unique game consists of a circle made by all the touching feet of the camp's children. Each of them, at its turn, will name a round object, as the sun *(o.i)*, the moon *(tiba)*, a star *(bibi)*, a fruit *(bute)*, an eye *(u.e)*, etc. . . . and when they have exhausted their knowledge of "things" then they start with figurative expressions, such as "the circle of the family," a "complete rainbow" (reflected beauty . . .), "togetherness," a "baby in the womb," and "egg of life," etc. . . . Doing so, they seem to review the chain of life and of living. . . . Each time a child runs short of an *Abani*, he is called "dead" and cannot participate anymore in that particular game. The last "living" Pygmy is more likely to get married soon and produce the best "eggs of life" (seems more interesting than throwing a wedding bouquet). *Abani* appears to be a natural combination of self-awareness and vocabulary improvement along with some sensitivity training.

This photograph was taken by Jean-Pierre Hallet of the Pygmy Fund. He requested that we run the following solicitation to keep such games alive.

The only organization that is caring for the survival and well-being of the Efe Pygmies of Zaire is THE PYGMY FUND, winner of the 1987 Presidential End Hunger Award. Tax-deductible donations are needed to preserve the lives and culture of these unique people: The Pygmy Fund, Box 277, Malibu, CA 90265. ■

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Ann Arbor MI 48106

Photograph by Fred Mertz

It takes Sha Sha Higby up to one year to construct her elaborate costumes, like this one for *Cows Under a Pepper Tree.* Her performances combine cos tume, sculpture, and dance to create mysterious events that evoke the ritua of an ancient nature religion. For her views on the obsolete body, see p. 4